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CU

AMIGA

MAGAZINE

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Audio Magic!

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Toast & Jam

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Reviewed:

Scan Doublers

New Digicam

Catweasel 2

Foundation

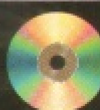
Genetic Species

Quake Cheats

Massive Quake players guide

No CD-ROM? Ask your newsagent!

CD edition, disk version also available





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Editorial



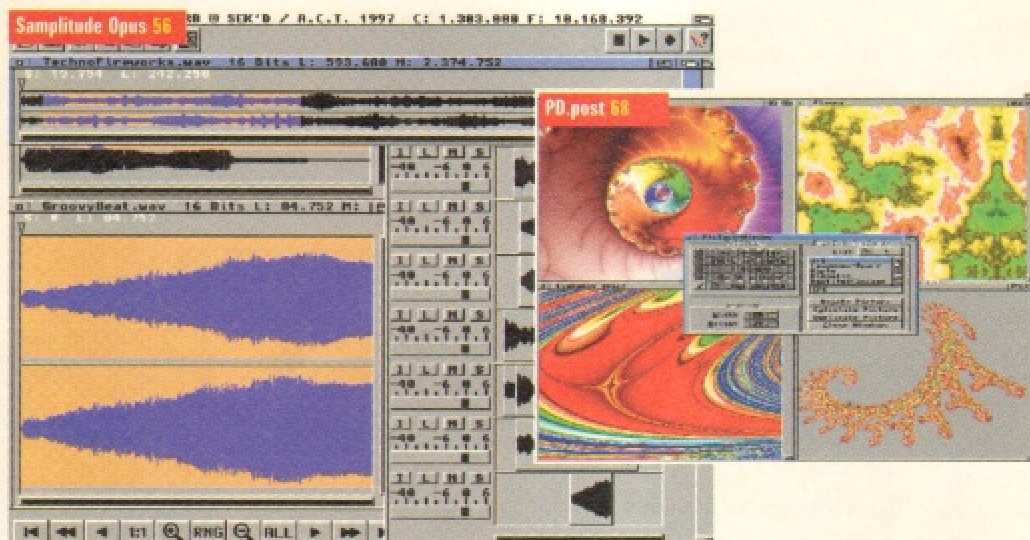
The astute will have noticed a subtle audio theme about this issue. It's time to move on from the old days of four channel 8-bit sound into the world of professional audio. Find out how, starting on page 32. Meanwhile we take a new look the Video Toaster, which is now available cheaper than ever. Rounding off the features we've got Andrew Korn to unravel the web of confusion surrounding that bombshell from Amiga Inc with an update on what's happen since then. Not to mention all of this...

Tony Horgan, Editor

News

Screen Scene

Tech Scene



Samplitude Opus 56

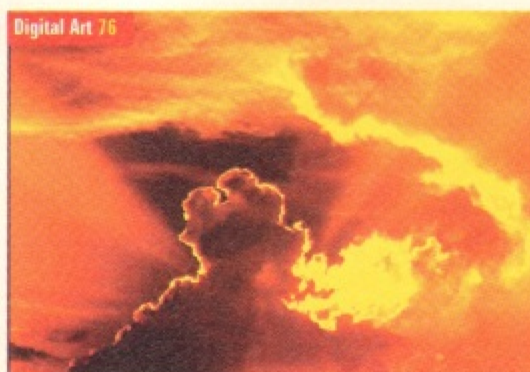
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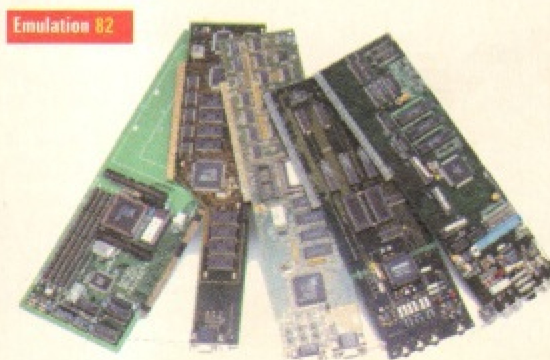
The audio theme extends to an enormous collection of sound and music related software on the CD, including Samplitude CD and an audio track. It's another 100% full disc too!

A fully working version of Samplitude CD is here along with an exclusive demo of the new Sound Probe, backed up by WolfPac.





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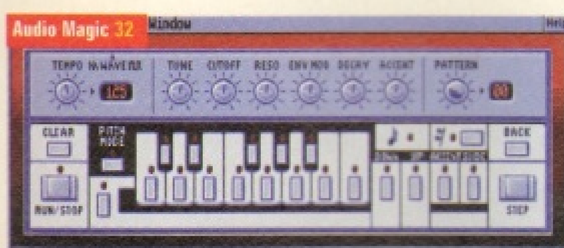
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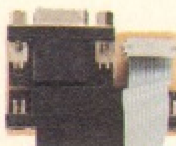
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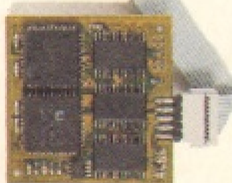
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CU AMIGA MAGAZINE

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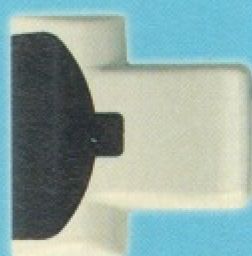
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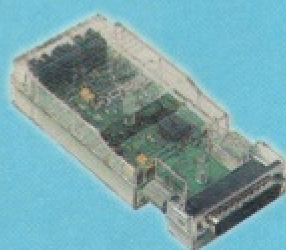
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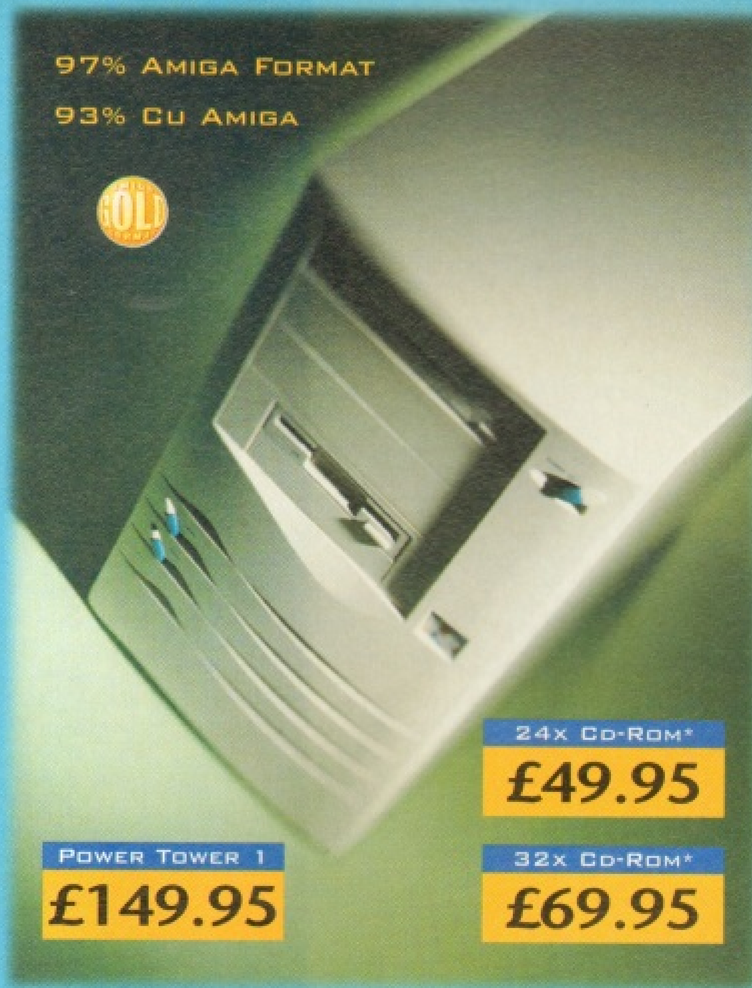
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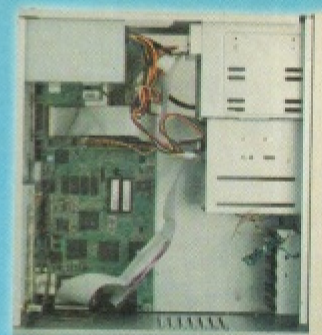


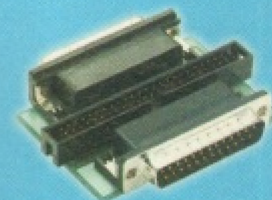
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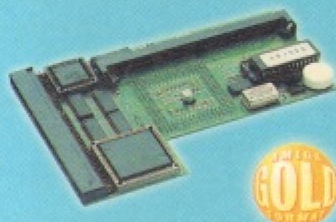
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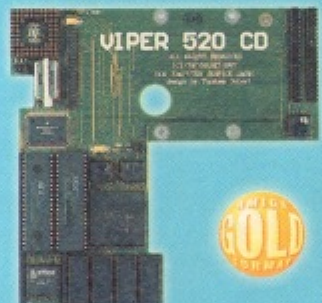
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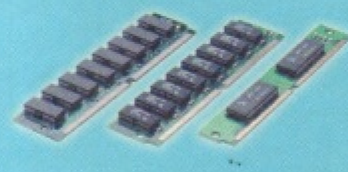
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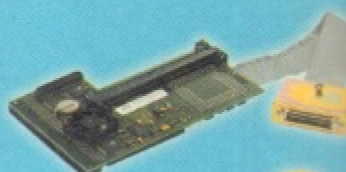




Blizzard 603e

- A1200 PowerPC Card
- 603e PowerPC with 68K CPU
- No SCSI, cannot be upgraded
- Up to 128MB RAM

160MHz with 68040/25	£249.95
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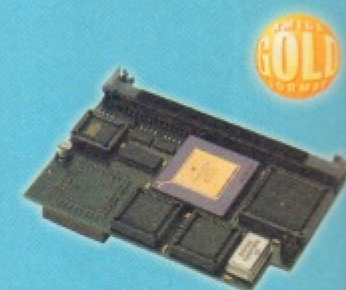
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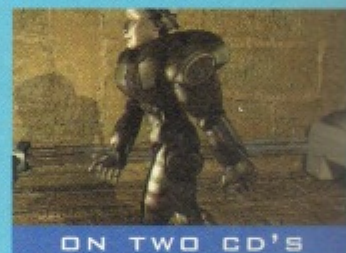
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- Huge game on 2 CD-ROMS

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A600 1MB CHIP RAM ...£24.95

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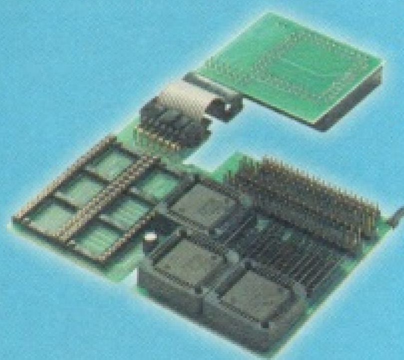


THE NEW POWER FLYER

Power strikes back again with a faster E-IDE Controller for the Amiga 1200. If you have recently bought a Hard Drive and you've probably realised that it is slower on your Amiga than on compatibles. Power can now solve that problem, thanks to the Power Flyer, a software and hardware solution which completely replaces the IDE controller of your Amiga 1200.

In PIO-4 mode it is possible to reach a maximum speed of 16.6MB/sec. Most drives will increase their transfer speed from 2.5MB/sec. to 7MB/sec.

Tested with most accelerator cards, we found that the best performance is achieved with Apollo cards. (especially the 68060 66MHz ones)



- Up tp 4 E-IDE and ATAPI devices can be connected
- Supports mode PIO-0, PIO-3 and PIO-4 (A1200 standard controller supports PIO-0)
- Meets specifications for ATA-3 and FastATA-2

Power Flyer
£69.95

SCANMAGIC FLICKERFIXER

A scan doubler works by doubling the vertical frequency of the Video compatible Amiga modes (15KHz, Pal, NTSC and Euro36). The signal generated will then be displayed by any standard SVGA monitor.

The more expensive flickerfixer adds one extra feature to the ScanMagic. It eliminates the flickering from all interlaced Video compatible Amiga modes.

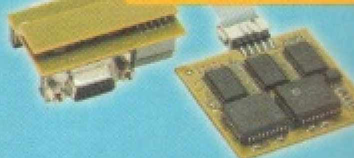
Nobody can stop you anymore from buying a nice, inexpensive, PC compatible monitor (check our prices and models, all sizes are available).

- Doubles the Vertical frequency of the Amiga PAL, NTSC and Euro36 video modes
- Allows you to use any standard VGA monitor with your Amiga 1200 and 4000
- Fits internally-easy installation
- VGA Adaptor included
- Pass through of all other modes

Internal **£54.95**
Internal inc. Flicker Fixer .. **£99.95**
External with Flicker Fixer . **£99.95**
ScanMagic External **£69.95**
VGA Adaptor **£15.00**



ScanMagic Int.
£54.95



POWER MOVIE

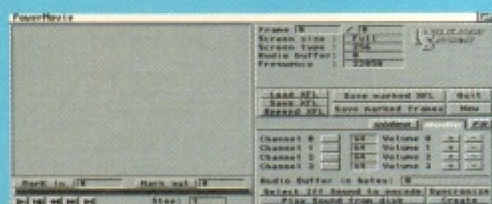
'The World of Amiga' show saw the launch of our most recent innovative product, Power Movie.

This product is a long awaited tool for easy Full Motion Video editing. We anticipate that it will be popular with the developers of Multimedia projects or videogames and whoever needs to put together thousand-frame-long 3D rendered animations with synchronised soundtrack/sound F/X and in need of playing the resulting animation in real time straight from a hard drive or CD-ROM. Each frame can be in 256 or HAM-8 colours and have a different palette.



Power Movie Produced

Power Computing is in the process of licensing PowerMovie according to its final use in order to keep its price down. Amiga enthusiasts will be able to buy the software with a cheaper licence for personal, strictly non-commercial use. Commercial usage requires a business licence for companies planning to use the software and the files it creates for commercial products i.e. video games, Multimedia, Info-Points, etc.



Power Movie
£34.95

Commercial Use
£TBA

POWER CAMERAS

Power VDC100 and VDC200 Digital Cameras

Oliver Roberts, of F1GP Editor's fame, is the author of the Power DC, the software for Power's Digital cameras.

VDC-100 Technical specifications

- Image/Video: 250,000 pixel CCD 24-bit colour
- Resolution: 320 x 240 (standard), 640 x 480 (high resolution)
- Memory Stores up to 20 images (20 standard, 10 high or a mixture of both)
- Real Time Video in Black & White (NTSC)
- Shutter Speed: 1/60 to 1/16000
- Focus Range: 10cm to infinity
- Power Supply: 4 A4 1.5V batteries or DC Power adaptor

VDC-200 Technical Specifications

- Image/Video: 470,000 pixel CCD 24-bit col
- Resolution 320 x 240 (standard), 640 x 480 (high resolution)
- 45mm Colour TFT LCD monitor
- Memory: 2MB, stores up to 50 images (standard mode)
- Compact flash memory slot
- Built-in flash
- Real Time Video in colour (Pal)
- Shutter Speed: 1/60 to 1/4000
- Focus Range: 250mm to infinity



VDC100 Camera



VDC200 Camera

VDC100 Camera **£99.95**
VDC200 Camera **£199.95**
2MB Flash RAM (VDC200) **£49.95**
4MB Flash RAM (VDC200) **£TBA**
50 Alkaline Batteries ... **£25.95**

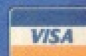
New software v1.2, existing owners send SAE for free upgrade!

POWER COMPUTING

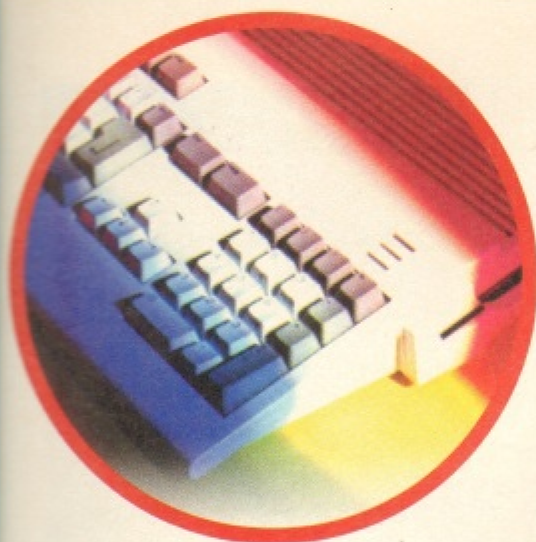
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News

News from Motorola



IBM and Motorola have announced that the partnership at their jointly funded PowerPC research centre is to end. The Somerset Centre in Austin, Texas will now be wholly owned and operated by Motorola. However, both companies have stated that they will continue to co-operate closely on advancing and marketing the PowerPC architecture. The PowerPC is important to both companies, especially in the area of embedded processors, a rapidly expanding sector of the market. The split between Motorola and IBM is not expected to have any adverse effect on the production of PowerPCs for desktop applications. In fact Motorola say that complete control at Somerset will permit subsidisation in this market.

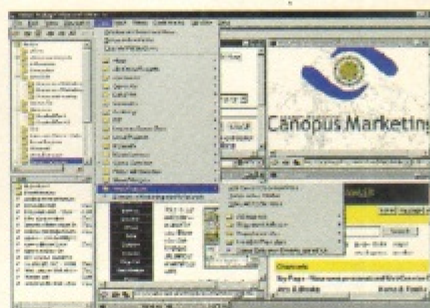
The fall out between IBM and Motorola is allegedly due to Motorola's proposed Altivec Technology. Altivec is a multimedia extension to the PowerPC architecture for high-bandwidth-data applications – such as video/audio processing and networking. It is intended to compete with Intel's MMX extension to the Pentium but is far more radical. Altivec processors will feature a 128-bit wide vector unit, capable of operating in parallel with the FPU and ALU, and which will employ the SIMD paradigm (Single Instruction Multiple Data) – an optimization making the processing of data streams possible with very few instructions and hence more efficient. The first processor incorporating Altivec is the G4, a 32-bit PowerPC chip scheduled for release in the first half of 1999.

Motorola are also looking rather further into the future. They are said to be designing a 64-bit processor which will rival the IA64 series, the next generation project from Intel and Hewlett-Packard. No details of this new chip have been released publically yet.

Amiga gets new Web browser

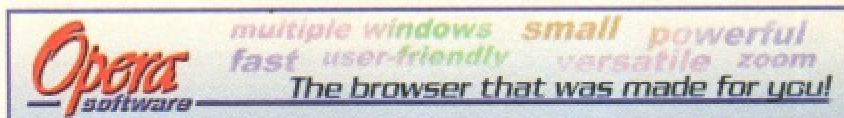
Work is under way on porting The Norwegian shareware browser Opera to the Amiga. Opera is currently available only on Windows platforms, where it is well-respected and popular, mainly due to its Amiga – like small size, efficiency and user-friendliness. The decision to bring Opera to the Amiga is because of the tremendous response voiced by the Amiga community to Opera Software's Project Magic initiative – a survey of interest in the Opera browser for 'alternative' operating systems such as AmigaOS, BeOS and UNIX.

The Amiga version of Opera is being produced by the UK-based company, Ramjam Consultants. Their project leader, Tim Corringham, believes there is room for Opera in the Amiga browser market because it offers more functionality and



stability than current browsers. The first release of this product is scheduled for December 98 and will be for Classic Amigas with WB3.1 and a minimum of 4MB of RAM. A PPC version is expected to follow. While pricing has not yet been confirmed, it is expected to be comparable to the PC version (currently USD $35 or about £20).

More information can be found from Opera's web site at: **http://www.operasoftware.com/**.



PPC Emulators are coming

Microcode Solutions has finally released the PC version of the Fusion Macintosh emulator. That's not good news for Amiga users in and of itself, but it does finally free up their resources to get back to work on Amiga projects.

PowerUP-compatible versions of both Microcode's PCx (PC-compatible) and Fusion (Macintosh) have been in progress for some time, but Microcode diverted all of its efforts to the completion of their first PC product, Fusion for MS-DOS.

Now that it has been released, Microcode have indicated that they are back to work on Amiga products, but declined to offer any potential release dates.

Intriguing but unconfirmed rumours have suggested that Mac OS 8 for PPC contains enough of the original ROM code that Fusion PPC would be able to run Mac OS 8 out of the box, without requiring ROM images. We await Apple's opinion on the matter – if true, it could make total PowerMac solutions possible. You can visit Microcode Solutions's new website at **http://www.microcode-solutions.com.**



MICROCODE SOLUTIONS

PPaint 6.4 free, PPaint 8 coming.

PPaint 6.4, a version of the premiere bitmapped paint package that is barely eighteen months old, is being made freely distributable by the publisher's, Cloanto. To get your own fully functional, free copy of this package visit the biz/cloan directory on the Aminet.

Cloanto are currently working on version 8 of PPaint. A major re-write is to be undertaken to create more portable code, thus ensuring PPaint's future no matter what direction Amiga takes with any new OS. New features planned for this release include true-colour, layers, and improved animation facilities.



Stop Press

Cybervision PPC is here

Just as this issue was going to press, we received confirmation that the Permedia 2 based Cybervision PPC card from phase 5 will be shipping about the time you are reading this. These 2d/3d cards will come with an Amiga version of the Rave 3D library in both PPC and 68k versions. The BlizzardVision PPC version of the card for A1200 owners is expected a month after the A4000 Cybervision PPC version.
At around the same time, phase 5 will release version 46 of their PPC.Library for Cyberstorm PPC and, with a Flash ROM updater, for Blizzard PPC. This version of the library contains various new features such as shared library support. This will be the last version of the PPC.library in the immediate future.

ICOA User Rep Selected

In a landslide result, occasional CU contributor Harv Laser was selected to serve on the ICOA Steering Committee as one of five voting members. The other four have yet to be selected, but will be chosen in upcoming ICOA elections. Laser received 174 out of 274 votes.

Some have voiced concern that someone was elected to represent the world's users out of a list of three Americans and a tiny electorate, but the ICOA have said that future elections will be less rushed and give more of an opportunity for Amigans world wide to become involved. According to ICOA, Laser's job for the next year is "to combine the roles of consumer advocate, opinion-gatherer, strategist and community liason." For more information on the ICOA, try: www.amiganet.org/icoa. The Amiga Zone can be visited at www.amigazone.com.



Win Digital Grooves

To celebrate the launch of their new CD, Audio Works are giving away five copies of Digital Grooves, a collection of 20 Amiga created tunes ranging from twinkly computer game soundtracks to moody computer game soundtracks, plus a few other bits and pieces along the way. To stand a chance of winning a copy, correctly answer the following question on the back of a postcard and remember to include your own name and address:

The word 'digital' is derived from the Greek word for which part of the body? The first five correct applicants drawn from the bag after August 30th 1998 will get a copy of the CD.

Alternatively secure your copy by sending a cheque or postal order made payable to David Dewar for £5.99 to Audio Works, PO Box 3567, Milton Keynes, MK2 2ZN. For further information phone: 01908 673794 or email audio3567.aol.com

Eyetech deals

Eyetech have announced improved specifications for their EZ-PC tower. Responding to comments last month's review of this Amiga/PC Siamese tower system, Eyetech are increasing value for money by upping the specification of the tower to include a 30-bit A4 flat bed scanner, 64Mb RAM on the PC, 3.2Gb hard drive, and 32x CD Rom. The price remains at £999.95. Eyetech claim that this makes it 40% cheaper than an equivalent specification Zorro 3 machine, with the added bonus of a free PC.

Eyetech are also offering people wishing to buy their 20 speed CD ROM drives (reviewed on page 58) a special deal. Cut out the voucher below and send it with you order for a 24 speed drive at the same cost – Eyetech tell us the mechanism is the same make. The offer is limited and on a first come first serve basis. Call Eyetech on +44 (0)1642 713185 or see their ad. on page 39.



20x to 24x CD ROM Upgrade offer. Valid only with orders from Eyetech Group, Ltd. While stocks last. This voucher must be sent with your order to qualify.

In Brief

Kickstart Amiga Sale

There will be a second hand Amiga sale held on 30th August at the Brook Hall, Ottershaw, in Surrey. The Kickstart sale will charge an entry fee of £2, £1 to members of the user group. Sellers must book in advance, and pirates are warned to keep away. Contact Rob Gilbert (gibie@arrakis.com) or Greg Howson (01483 536430) for more details.

AmigaSoc reps UGN

The UGN, the worldwide network of Amiga User groups, has appointed AmigaSoc as their official UGN representatives to the UK. AmigaSoc have promised to work closely with other members of the UGN to provide help and support to all UK user groups. The AmigaSoc resource includes a database of UK usergroups on their website, www.amigasoc.org. All user groups not currently listed are invited to contact them for inclusion, email: chrisl@uk.amigasoc.org for more details.

Fusion, PCx drop

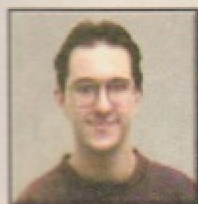
As the PPC version of fusion gets into gear, Blittersoft have dropped the price of their current stocks of the current line of Microcode products. Fusion 3.1 and PCx 1.1 will now be sold for £29.95 each or £49.95 for the pair. Contact Blittersoft on 01908 261466.

Amiga gets BSE

BSE, the Belgian Scene Event, will be held on the 7-9th of August in Diepenbeek, Belgium. This demo party will include competitions for 40k intro, demo, music and graphics. For more details check out http://bse.base.org or email: bse98@gmx.net

Midwest Expo

The Amiga Central Ohio Network is organising a show for the 2-4th of October, to be held at the Hyatt Regency,Columbus Ohio. It will be the largest (by floorspace at least) US show, and promises a good list of exhibitors and seminars. www.amicon.org/mae.html.



Stateside News

by Jason Compton: Editor in Chief of Amiga Report Magazine

Amiga businesses, get listed

PIM Publications, the publishers of Amazing Computing, America's largest Amiga print magazine, are once again planning the resurrection of the AC's Guide.

The Guide is a tome of Amiga companies and products that was published twice a year until the fall of Commodore, when production ceased. For some time now, PIM have been attempting to update their master database, which as we all know has seen a great deal of turnover since 1994.

Since a new publication date has not yet been set in stone, it's not too late to be included in the next Guide.

Listings, as always, will be free in the new edition. For more information, contact PIM Publications at PO Box 9490, Fall River, MA 02720, or online at: **www.pimpub.com.**

Sassenrath talks

The fundamental approach of his new REBOL project may be something few truly understand and even fewer have actually seen any physical evidence for, but Carl Sassenrath, who recently formalized his avant-garde computing concept into a company, sure finds himself in the news a lot these days.

He recently gave a lengthy interview to local radio station KZYX on REBOL and his take on the future of computing. If you have access to RealAudio players and wish to hear the interview, it is online at www.kzyx.org/pc/archives/rebol.html (if you don't have RA abilities, you can still check out the bio on Sassenrath on this website.)

He is also slated to figure very heavily in developer and general user discussion and Question and Answer sessions at the California AmiWest show of this summer. It may not be a complete coincidence that his largest public push to date for REBOL Technologies will come at an Amiga show relatively nearby his operations, also in California.

REBOL might best be described as something more than a new language, but less than a new operating system. For some more information, check out: **www.rebol.com**, or you can try and find one of the small handful of REBOL alpha testers and pump them for information.

Point and Click Radio Archives

Point and Click Radio for May 27th, 1998:

Carl Sassenrath - REBOL with a Cause

Has modern computer software become too complex? Shouldn't simple tasks just be simple? With that question in mind, Carl Sassenrath recently formed **REBOL Technologies**, a company dedicated to uniting scripting and messaging technologies to provide greater computing leverage, productivity, and power. Carl Sassenrath is a Mendocino County resident and was the architect of the Amiga multitasking operating system.

- To listen to the **RealAudio archive** of our interview with **Carl Sassenrath click here.**

Related sites: REBOL Technologies, Amiga

||| Point and Click Page ||| Links ||| Archives ||| KZYX Guide ||| KZYX Home |||

AMIGA.INFO

Possibly another minor victory in the slow redemption of the Amiga in the eyes of the North American computing press, Ontario's Monitor computer publication has added an "Amiga.info" section to its online version. The Amiga coverage is handled by Ray Binda and Thomas Leroux, and provides summary and commentary on current Amiga issues and products.

Presumably, a strong performance online could lead to actual column-inches in the magazine proper down the line. The Monitor's print distribution is 36,000 Canadians.

For more information, contact the Monitor at 613-596-1358, or **www.monitor.ca/monitor online.**

Super CD-ROM 25



Welcome to CUCD25. This CD is crammed full of programs, games, utilities, mods and a host of other goodies. If you don't yet have a CD drive, this is your reason to buy one. Prices have never been lower and 650MB of quality software each month is just too good to miss out on.

How much of what?

AudioSpecial	68MB	Magazine	21MB
CDSupport	71MB	Online	38MB
System files	13MB	Programming	15MB
CDROM	22MB	Readers	18MB
Demos	23MB	Sound	62MB
Games	166MB	Utilities	20MB
Graphics	44MB	WWW	28MB
Information	4MB		

Making the most of CUCD 25

All CUCDs are designed to be used whether you boot from the CD or your normal Workbench. If you boot from the CD, everything is setup and ready to go. If you want to access the CD from your Workbench, you should first run InitCD. This sets up various assigns and paths needed by programs on the CD, so if you don't do it, things won't work. It doesn't make any changes to your system, or write any files to your hard drive, all changes are temporary and can be reversed by running InitCD again. The error some people were experiencing with updatecopy has been fixed now, and the fix means that you won't see the error again, even with older CDs.

Your own custom CD

In the past you had to use whatever file viewers we set up on the CD. since these had to work with all Amigas they were quite limited. From CUCD12 we decided to allow you to specify how the CD should work on your Amiga and included CDPrefs in the CDSupport drawer. If you have never run this before you should be asked if you want to when you run InitCD. CDPrefs lets you specify which program you want to use to handle each type of file, graphics card users can view pictures in full 24 bit colour, ProjectXG users can listen to midi files through their midi card, people with sound cards can listen to mods with an AHI module player and PowerPC users can use the fast file viewers and mpeg players available for their machines. It also means we were able to provide different defaults for Workbench 2.x users.

Once you have run CDPrefs, your setting will be saved to your hard drive and will be used every time you use this CD or any other CUCD. Some people had problems with the original use of IDer, partly through a lack of understanding of how it worked and partly through a lack of explanation from us. All icons now use CUCDfile as their default tool, and the previous IDer problems should be a thing of the past. InitCD now copies CUCDfile and it's configuration to your hard drive, if it's not already there. This means that files copied from the CD will now work without needing the CD present. You will almost certainly need to run CUCDprefs to set it up to use your own viewers, but you should do that anyway as it will result in faster access. If you do have any problems, make sure you have run InitCD, at least once.



Highlights of CU Amiga Super CD 25





▲ These are Quake Total Conversions. They work with the full version of Quake but give you a completely different game. There are many total and partial conversions written for PC Quake, and most of them will work with the Amiga version, so watch for more on forthcoming CDs.

AmigaAMP

CUCD/Sound/AmigaAMP

AmigaAMP is not just another mpeg audio player. As well as supporting PowerPC and 680x0 processors for decoding it also has a compact but useful interface, looking like an audio CD player. But it doesn't stop there, AmigaAMP can use skins designed for WinAMP, the Windows port of AMP.



These skins completely change the appearance of the interface and there are hundreds (possibly thousands) to choose from. The skins directory contains well over 100 different skins, with an icon to start AmigaAMP with each one.

ToolManager

CUCD/Utilities/ToolManager

ToolManager has to be one of the biggest time savers available. It offers several ways of starting programs, all of them much faster than opening several levels of drawers to reach an icon. you can start programs from a dock (a button bank), the Tools menu or a hotkey. It also supports drag and drop; drop a picture's icon onto the PPaint button and PPaint will start up and load the picture for editing. Drop any file onto a Multiview (or IDer) button and it will be viewed or played. This drag and drop ease of use also extends to setting ToolManager up through its preferences editor.

MCP

CUCD/Utilities/MCP

Since MCP was featured in the Workbench 2000 article in the January CU Amiga, it has undergone many changes and refinements. This is the latest beta version of MCP, which has proven very stable here despite being classed as beta. The advice given in January still applies, try the options one at a time, if you try to switch everything on at once you are asking for trouble – this is a fairly powerful commodity.



ProNET

CUCD/Online/ProNET

Of all the various solutions for networking two Amigas without expensive hardware, ProNET is the most flexible and stable. You can connect machines using either the parallel or serial ports (or even the floppy drive ports with a bit of DIY hardware). You can also find ProNET in the CDSupport drawer, complete with icons to start up either parallel or serial links, for those of you who want to link a CD32 or CDTV to your Amiga.

WebPlug

CUCD/Online/WebPlug

It's impossible to have a WYSIWYG HTML editor, since HTML itself is not WYSIWYG (What You See Is What You Get), but WebPlug does a good job of creating HTML pages though a graphical interface. Because you see the actual HTML code in the window, it helps you to learn and understand what's happening, rather than hiding it from you.

AmigaWorld

CUCD/Information/AmigaWorld

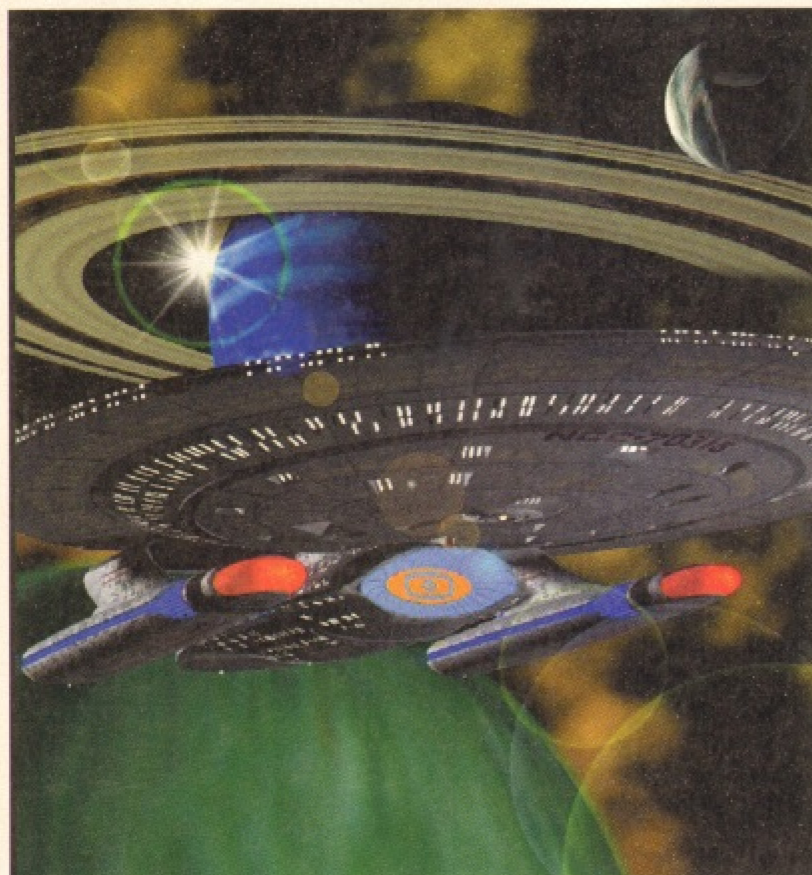
AmigaWorld is a database of information on just about every country in the World. Using a straightforward graphical interface, you can see exactly where a country is and find out information about the country, it's currency, languages and much more.

Making things work

Wherever possible, we have tried to make software work straight from the CD, this isn't always possible for a number of reasons. Some programs need to be installed to your hard drive to work, often requiring specific system files. These files are usually on the CD so running InitCD often helps here. Most software contains a list of system requirements in the documentation, and some will not run unless you have the required processor, memory operating system version or chipset.

Some programs, particularly demos and games are written in an OS illegal way. This can mean they only work on specific machine specifications, sometimes the readme states this, but not always. Many demos are intended to be run for a shell, the icons we add simply start them from a script. In some cases this will not work, especially demos that need a lot of Chip RAM. In this case you will need to boot without startup-sequence and run the program from the shell. Your Workbench manual should explain how to do this.

What's on this month's CU Amiga CD?

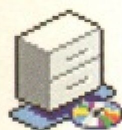


AudioSpecial:
A huge collection of software and utilities to help you create, process and listen to your musical masterpieces. This includes special versions of Samplitude and SoundProbe, plus a copy of MakeCD so you can commit your production to CD and send them to us as a potential audio track for a future CU Amiga CD.

CDSupport:
This contains various support files, such as mod players, anim players, GMPlay, MUI, ClassAct. Most importantly, this is where the CDPrefs program lives. With this you can customise your CUCD to launch your choice of program for each type of file. Two other notable icons in here are Docs.guide, with links to all the program documentation files on the CD, and Index. Run Index, type in the name of a program, or part of it, and it will search the contents of the CD for you. You can either search the current CD or the index files of all CUCDs since number 4. CDSupport also contains icons to start ProNET in various configurations, ready to use when linking a CDTV or CD32 to another Amiga.

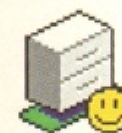
CUCD:
This drawer contains most of the CD contents, here is a selection of what each drawer holds.

CDROM:



We have updated versions of IDE-Fix and CDCat, a CD contents database, along with a new audio CD player. We have also added to the CDID collection, there are now over 6300 CDs here. Each one has the artist and title in the file comment, so it's easy to pick out the right ones for your CD collection.

Demos:



Not quite the mega-collection of last month, but there's still over 23MB of flashing, swirling, scrolling, sliding, thumping demos.

Games:



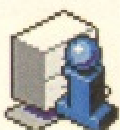
Plenty of games this month, with a special demo of Genetic Species and some Total conversion add-ons for Quake. There are also a couple of collections of game cheats, an update for Foundation, new editor and data files for F1GP and a huge FMV game.

Graphics:



The 3D renderer RayStorm has been updated and now features version for 68020, 68040, 68060 and PowerPC. There are also new file viewers, and updates for Photogenics2 and more icons and backdrops to customise your Workbench.

Information:



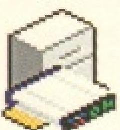
This drawer contains updated reference guides on Amiga system files. The AmigaWorld country database contains a vast amount of information on just about every country in the World.

Magazine:



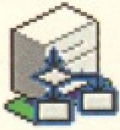
The drawer contains support files for the various features within the magazine, such as the source code for the C tutorial, the programs reviewed in InternetPD, all of the programs mentioned in Wired World and the latest information on the universe of Explorer2260. There is also an update to last month's Scalos giveaway.

Online:



We have a wide range of software this month. Not only for the Internet, but also BBS and networking software, as well as the latest news from Aminet and archives from the newly resurrected CU Amiga mailing list.

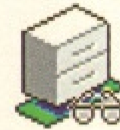
Programming:



A host of software and information for programming in C, E, Blitz, with utilities for MUI, Triton and GadTools.

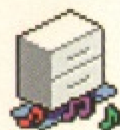
We also have the latest ixemul libraries and support files.

Readers:



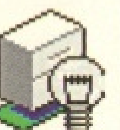
All your own work. These are the games, utilities, mods, pictures and anims that you send us. If you think you can do better, do it.

Sound:



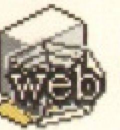
In addition to the AudioSpecial, there are utilities, players, mods and samples here, as well as the superb AmigaAMP mpeg player, with a huge collection of skins.

Utilities:

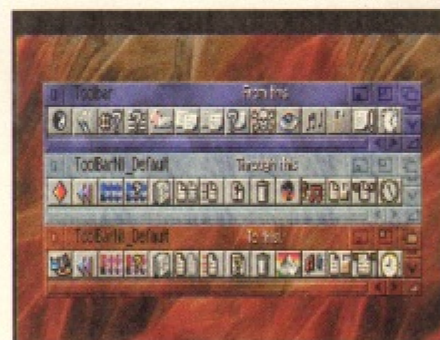


As usual, this drawer has a wide variety of useful or interesting utilities. Updates to old favourites like MCP and ToolManager are alongside new creations such as Smartfilesystem and IconHandler.

WWW:



More useful and interesting pages from the World Wide Web, plus the latest versions of the main Amiga browsers.




AmigaAMP Skins

Order by Access/Visa/Delta/Switch/P.Order/Cheque. % Surcharge on Access/Visa (not debit cards). All prices fully inclusive of VAT. Postage and Packing £7.00 + VAT (24 Hour) and £15.00 + VAT (Saturday). Prices and specifications may change without notice. Please telephone to confirm pricing/specification/availability before ordering. E&OE. All trademarks acknowledged. Goods not sold on a trial basis. All orders subject to our terms and conditions of trading, available on request.

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Amiga OS 3.1

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miga 1200, Amiga 3000(T), miga 4000 (T)	£ 45.95

3.1 ROM's only

miga 500, Amiga 500+, miga 1500, Amiga 2000	£ 25.95
miga 1200, Amiga 3000 (Inc. Tower), miga 4000 (Inc. Tower)	£ 29.95

Art Effect

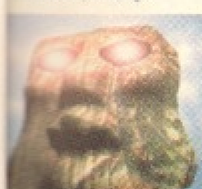
rtEffect uses the same concepts as industry standard Art packages and brings them to the Amiga. 2.0 now has Layers and Virtual Memory! ArtEffect can be further improved with add-on modules.

rtEffect V1.5	£ 59.95
t Effect V2.0	£119.95

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Tornado 3D V1.5 boasts many advanced features. The latest rendering technology for your Amiga.

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Official Amiga Approved ScanDoublers

nternal A1200 Scandoubler	£ 64.95
nternal Scandoubler (requires video slot)	£ 69.95
External Scandoubler (Any Amiga)	£ 74.95

Low monitor Prices!

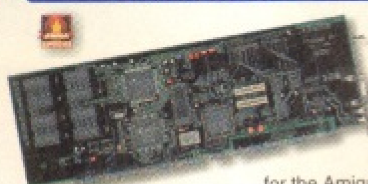


Digital Monitors, require ScanDoubler or Picasso IV

15" Digital Monitor	£159.95
17" Digital Monitor	£259.95

Picasso IV



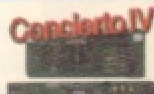


Without doubt the most stunning graphics card yet for the Amiga. No wonder CU Amiga claimed this to be *"The God of Amiga Graphics Cards!"*

Integrated flicker fixer, 4Mb EDO RAM, Autosense Zorro II or Zorro III £249.95

Concierto IV

16-bit Sound module for Picasso IV



- Yamaha OPL3 synthesizer
- 18 voices and digital playback
- Records in mono and stereo
- Two Midi connectors plus Mixer
- AHI, MIDI,Serial driver and ARexx support
- Requires PicassoIV (firmware 4.1+)
- 68020 CPU or better, OS 2.04 or better.

Concierto IV £ 99.95

Pablo IV

Video Encoder module for Picasso IV



- Output Picasso screens to VCRs, television sets and studio equipment
- S-VHS or CVBS (Composite) video modes
- Displays 640x480 and 800x600 (PAL B/G/I only)
- A Time Base Corrector is required for genlocking
- Requires PicassoIV (firmware 4.1+)

Pablo IV £ 69.95

Paloma IV

TV module for Picasso IV



- Two video-in channels for the reception of S-VHS and VHF/UHF (aerial) signals
- Generates video images on the Amiga workbench
- All TV images displayed in a 24-bit window
- Pictures can be saved and edited
- Captured signal can be mixed with computer generated graphics
- Use with Pablo IV to produce a digital genlock.

Paloma IV £ 99.95

AsimCDFS / MasterISO V2

AsimCDFS CD-ROM software integrates sophisticated CD-ROM technology into the Amiga operating system.

AsimCDFS £ 49.95

MasterISO Version 2 is an advanced CD-R/RW system with an excellent new interface. Now supports Track-at-Once, Disk-at-Once and CD-Re-Writable formats.

MasterISO V2.0 £ 59.95

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AWeb is a fully featured web browser including frames, JavaScript etc.

AWeb II V3.0 £ 29.95

Prelude

Prelude



Zorro II 16-bit sound card with full AHI software support. £169.95

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Infinitiv Kit-S £149.95
- Infinitiv Tower
- In-built PC Keyboard Interface
- 200W PSU
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- Power-In Adaptor (if non-Zorro)

Infinitiv Kit-Z2* £279.95
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- Z2 board

*Extra 5.25" Bay required with Z2 if 1200 accelerator fitted

Infinitiv Kit-Z3 £449.95
- Infinitiv Tower Kit-S
- Z3 board

Z2 board Zorro II x 5, PCI x 2, ISA x 2, Video (option) £149.95

Z3 board Zorro III x 5, PCI x 2, ISA x 2, Video (option), SCSI-II, A4000 CPU slot £319.95

Infinitiv Amiga Tower Sytems
Officially licensed Amiga computers

Infinitiv 1200 Tower Kits

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- Many Extras.....



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A1200 M/board	As per 1300 plus	As per 1300 plus
OS3.1	5 x Zorro II	5 x Zorro III
200W PSU	2 x ISA	1 x ISA
Mouse	2 x PCI	2 x PCI
External Amiga Keyboard	Video option	Video option
Floppy drive.		A4000 CPU slot
		SCSI-II interface
£329.95	£429.95	£599.95

Tower Kits for the Desktop A4000 and A3000

Metal CE Tower, Zorro III slots x 7, ISA slots x 5 (6 on 3000), Video x 2, (1 on 3000). PCI version has 3 x PCI and 3 x ISA

Tower 4000 PCI System (Tower and Zorro/PCI)	£329.95
Tower 4000 ISA System (Tower and Zorro/ISA)	£299.95
Zorro III/ISA/PCI/Vid (A4000 - board only)	£219.95
Zorro III/ISA/Video (A4000 - board only)	£179.95
Tower 3000 ISA System (Tower and Zorro)	£299.95
Zorro III/ISA/Video (A3000 - board only)	£179.95
Uprated PSU (state 3000 or 4000)	£ 69.95

Individual Infinitiv Component Parts

Infinitiv Tower + Keyboard interface	£ 99.95
Infinitiv uprated PSU	£ 49.95
Infinitiv 3.5" "Snap-on" bay	£ 9.95
Infinitiv 5.25" "Snap-on" bay	£ 29.95
PCMCIA Angle Adaptor	£ 24.95
Infinitiv Video Slot Interface Z2	£ 39.95
Infinitiv Video Slot Interface Z3	£ 39.95
Windows 95 Keyboard	£ 14.95
CD-ROM Bezel	£ 4.95
IDE cable, 2.5" to 2.5" + 3.5"	£ 14.95
Power Adaptor (Non-Zorro Towers)	£ 5.95
External A1200 Keyboard case*	£ 39.95
Audio Slot Bezel (2 x Phono)	£ 14.95
IDE cable, 2.5" to 2 x 3.5"	£ 14.95
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Phase 5 Accelerators

Lowest Prices!

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180 MHz No CPU	£449.95
200 MHz No CPU	£529.95
233 MHz No CPU	£569.95
180 MHz + 68040/25 CPU	£489.95
180 MHz + 68060/50 CPU	£649.95
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CyberStorm MKIII 68060/50 MHz *With built-in Ultra-Wide SCSI. Matching SIMM pairs required*	£449.95
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160 MHz 68040 @25MHz	£244.95
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FUSION – The ultimate Software Mac Emulation!



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PCx Advanced software only 80x86 PC emulation for your Amiga
PCx offers PC emulation on your Amiga. PCx will run DOS and Windows 3.1 in standard mode, and takes advantage of CD-ROM drives. PCx requires 68020 or better and Fast 3Mb RAM minimum.

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All-in-one graphics tool for automatic picture organisation, format conversion, searching, printing, image processing, PhotoCD access and more! Now with PPC support and Web Wizard!



Picture Manager Professional V5 £39.95

COVER DISKS

Samplitude CD





Both CD and cover disks this month come complete with Samplitude CD, an excellent sample editor and CD audio preparation application.

Features
- Professional quality sound processing
- Audio image preparation features
- Multiple sound card support
- 100% Compatible with stock A1200



Installation and setup

Installation of Samplitude CD is easy. Boot from your hard drive and then drag the Samplitude icon from the cover disk or Audio Special drawer of the CD to wherever you want it installed on your hard drive. Now double click the icon you've just put onto your hard drive to initiate the installation. Once installation has finished you can run Samplitude straight away. Select Update from the Workbench Window menu to reveal the installed Samplitude software

Samplitude CD is a special version of the latest release of Samplitude Opus, reviewed in this issue on page 56. It offers everything you need for recording, editing and preparing data for audio CD ROMs, and along the way acts as a capable sampler and sample editor too. All you need to burn your CD is a CD writer and a CD writer progRAM that supports the new 'AIFF-CD' extension of the AIFF audio format. MakeCD is currently the best choice for this, which can also be found on this month's CD.

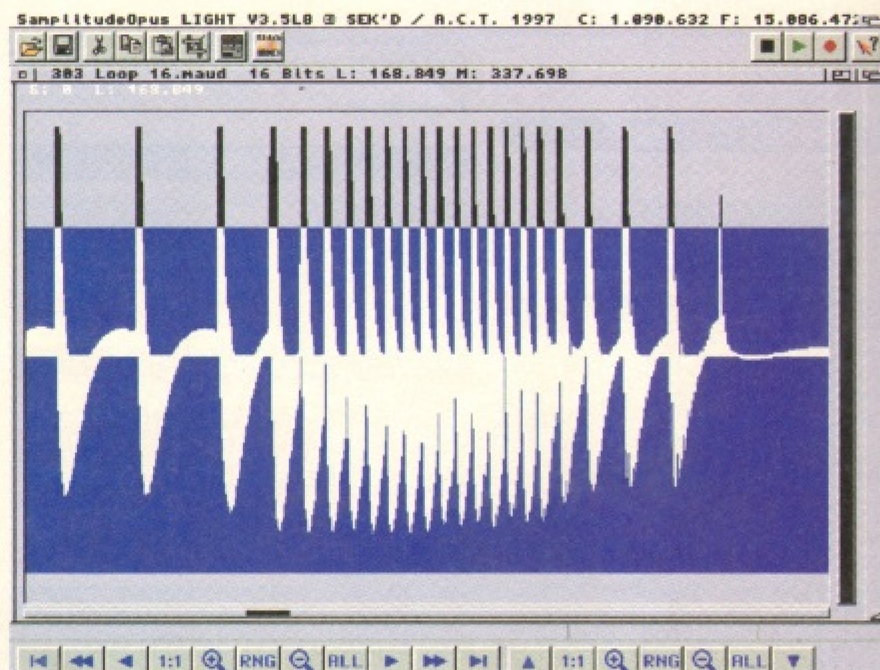
Samplitude CD allows you to record data from Maestro Pro sound cards (digital IO cards manufactured by MacroSystems), all Toccata compatible cards (like VLabMotion) and all Prelude compatible cards (like the Prelude-II and Festiva boards). A range of parallel port samplers is also supported. Playback via Paula (Amiga internal sound) is also possible.

Samplitude uses a complex hard drive memory system which allows you to work with samples completely residing on your hard drive. In order to get the best speed you should follow a few simple rules:

1. Use a filesystem block size of at least 16K if you want to work with long samples. To set your filesystem block size to a higher value follow the documentation of your SCSI or IDE controller software.
2. Use a controller on your CPU card or on your motherboard, not on the Zorro bus. Controllers on the Zorro bus tend to block the system.
3. Set Samplitude CD's internal buffers to a size divisable by the filesystem's block size. For example, when using a filesystem block size of 16K, set Samplitude's buffer size to 16, 32, 64 or 128K.
4. Use DOS access when working with slow setups, and use DEVice access when working with very fast setups. Generally you should try this out. In most cases a DOS access will be faster than DEVice access. DEVice access can only be used with filesystem block sizes of 512 bytes.

To adjust your settings start Samplitude CD and press 'g' or select Preferences/System. After changing everything according to your needs, close the window and select Save Setup from the Preferences menu. Next you should open a new project or load an existing project into Samplitude CD. If

▼ **Samplitude CD offers a wide range of sampling and recording possibilities**



Audio image preparation

Ranges and cursors are used in creating AIFF CD images. A range defines a CD track while a cursor defines an Index.

This gives you the opportunity of sampling a complete record's side in one take. Select the single titles as ranges (leaving the space between them untouched, thus sparing editing time), store the ranges and eventually create cursors within the ranges (these will be converted to index markers on the audio CD). Creating a CD copy of a record can be done just seconds after having sampled the complete record! Of course, duplicating copyrighted material is against the law. Here's how it's done anyway...

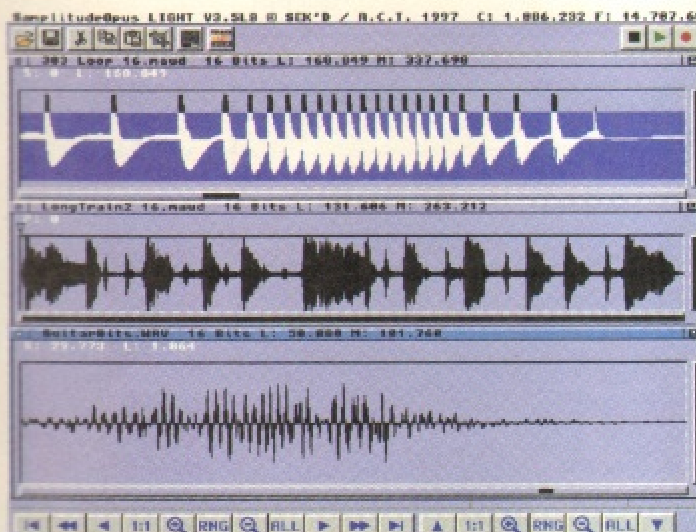
Simply do an AIFF-CD export to create the audio image. The parameter window popping up will allow you to choose some parameters. Usually you should leave them just the way they are. Index markers and Tracks are what you want, so disabling them in this window will result in a standard AIFF file, which could have been exported by the standard AIFF exporter as well. Copyright and Emphasis can be set if this is desired (usually you won't have Preemphasized audio data).

AIFF-CD is an extension to the standard AIFF which can be interpreted by MakeCD and quite probably other programs as well. Prelude's Graphic Tape Deck is already being expanded to support AIFF-CD track and index markers. If an application can not interpret the TrackInfo Chunk it will still import the complete sample data. Importing AIFF-CD images will create the track ranges and index cursors automatically. If you do not see the ranges right away, open the range manager and manually select them. AIFF-CD Images can currently be exported by MakeCD.

The AIFFCD extension is (C) 1998 by Patrick Ohly. Developer support is given by the author and A.C.T. who participated in defining the extension.

Samplitude CD is a complex program. You can get used to it by trying out the functions and playing around. If you have any problems you can contact A.C.T. directly at any time. There is also a mailing list to which you can post questions.

you do not have a project to load, select Projects/New/RAM. Now press 'p' or select Effects/ PaRA Meter. You should adjust the playback hardware setting. If your systems is equipped with one of the supported sound cards you will be able to select it with the mode gadget. Close the window and again Save Setup.



▲ **Multiple sounds can be worked on simultaneously.**

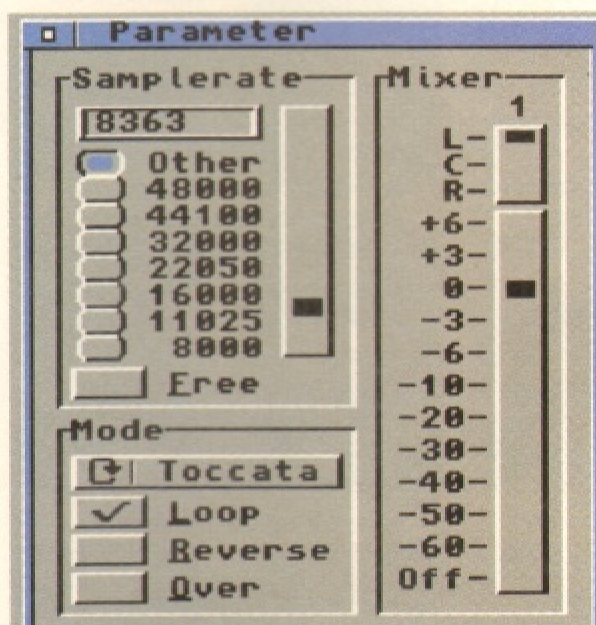
First steps

Samplitude CD can import most major sound formats, auto-detecting their file format. So if you want to explore the progRAM's capabilities, press Right Amiga + I or select Projects/Import/General and try to import some of your sound files. Samplitude CD will ask you whether you want to create a RAM or a hard drive project. These project formats both have advantages and disadvantages. Their use depends on what you want to do. HDP: Hard Disk Projects keep their sampling data on your hard drive (usually in the HDP: assign – see 'Further setups'), giving you lots of sampling space to work with – as long as your hard drive filesystem's space lasts. The drawback of these projects is that editing them is considerably slower than when using just RAM.

RAP: RAM Projects are based in your computer's RAM. Editing these sample projects is very fast, but you are limited to your system's memory.

Generally you should use RAPs if you want to edit data (cutting, effects, etc.) but use HDPs if you want to create audio images for CD or simply convert large amounts of data. HDPs are loaded much faster since only the optical representation of the sample data is actually loaded, not the sample data itself.

Once you have loaded some data into Samplitude CD you can start editing it. Click somewhere into the sample edit window, hold down the mouse button and move the mouse. A range will be created. The reason for ranges being created "rectangulary" is that you can make offset adjustments with Samplitude (Voltage offset etc.). If you prefer a time space oriented range only, simply activate Preferences/Vertical Fix.



▲ **Select the output device and rates from here.**

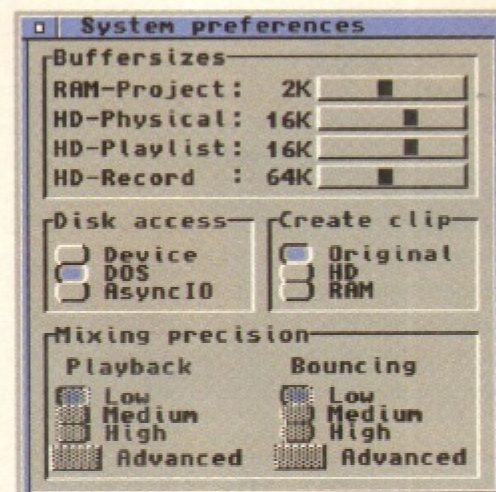
When cutting data from your sample to the clip board there will be a delay while Samplitude Opus transfers data to the clip. You can adjust the way clips are created – if you want to use the same kind of project you are editing in the clip as well, set Create Clip to Original in the system parameter window (Preferences/System or 'g'). If you always want to create RAPs when creating a clip, set it to RAM – or if you want to have HDPs, set it to hard drive. This way you can easily convert an HDP to a RAP and vice versa – simply adjust the clip project type, select your complete sample and press 'c' (for copy).

To pop up the current clip press the ESCape key. The project clip can be handled just like any other project and can therefore be saved and exported just the same.

Converting sample properties

In Samplitude CD the Pitch Shifter/Time Stretcher capabilities are disabled (like most of the high end functions available in Samplitude Opus), but you can use the Resampler. Imagine you imported a 22kHz IFF sample and want to burn that to CD. You need it in 16-bit, 44kHz stereo, so you should resample it to 44kHz first... Choose Effects/ DSP/Resample, click on 44kHz and select OK. Remember to change the project's parameter to 44kHz. Now press 'p' or select Effetcs/Parameter. The next step is to change the sample's resolution (if it is not in 16-bit already). Choose Effects/ ProjectSpecial/ Change Resolution, select 16 and click on Convert. The last step is to create a stereo project out of a mono one. Select Effects/ Project Special/ ProjectStereo or press ']' on the numeric keypad (the key above 8). That's it, you now have a CD ready sample.

Note that although the resampling quality of Samplitude Opus CD already is very good the full version will give you studio quality with nearly no windowing fragments.



▲ **Configure Samplitude CD to suit your system.**

Reverb, echo...

Samplitude CD's fading capabilites are not limited to linear fade in or fade out like many other applications. Audio volume has to be handled logarithmically, so LOG, LIN and EXP fading characteristics have been implemented. To do a fade out at the end of a long sample select the range where the fade should happen and press 'f' or choose Effects/Amplitude/Fade. The window appearing allows you to adjust anything you need for amplitude manipulation.

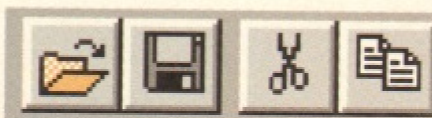
Reverbation is implemented in the common way (create lots of echos). The parameter window's options should be self explanatory. The same applies to Echo. Note that Convolution, the realistic room simulation using room-samples with filter characteristics, early reflection detection etc. is available in the 'big' Samplitude Opus version only.

Ranges and cursors

Samplitude CD can handle as many ranges and cursors (positions) per project as you want, RAM permitting. There is a Range Manager available from the Project menu (you can pop up the Range Manager's window by pressing Right Amiga + J). Ranges and cursors can be named (Range/Store/Other or Range/CursorStore/Other) or put on hotkeys (1 to 10). To put a cursor on the numerical keys on your keyboard press Shift+key (e.g. Shift+1 to store the current cursor on key 1). To store ranges to the function keys press Shift+FKey. To select a previously stored range or cursor press the corresponding key without shift.

To remove a range, pop up the range in question (using the Manager or pressing the hotkey if it is a range in the first 10) and choose Range/RemoveRange. To remove a cursor select the marker at the top of the sample window and move it to the right or left – out of the screen.





Upgrading

If you like this software you can upgrade to Samplitude Opus LITE or Samplitude Opus (full version) at a special upgrade offer price. Samplitude Opus LITE and the full Samplitude Opus give you everything Samplitude CD offers – and a lot more, including non destructive editing in virtual projects, playlist handling, high quality mixing (full version), several tracks (four in the LITE, unlimited in the ful version), high end FFT functions (and a studio quality denoiser), SMPTE support, MIDI TC support and other goodies. Please visit the Samplitude webpage at http://Samplitude.amiga-software.com.

Prices are as follows, based on upgrading from the cover disk version:
LITE: 50DM (£15)
Full: 350DM (£110)
Add 10DM for shipping on orders from outside Europe.

Contact details

Samplitude CD is developed by A.C.T. You can phone them Monday to Friday from 10:00 to 12:00 and 14:00 to 17:00 or send a fax or email to them and they will respond as quickly as possible. There is also an English mailing list being run. If you want to participate in that list, please write an email to ListServ@act-net.com and tell them to subscribe you.

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21769 Lamstedt
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Fax +49-4773-8910-72
www.act-net.com
e-mail: support@act-net.com

WolfPac

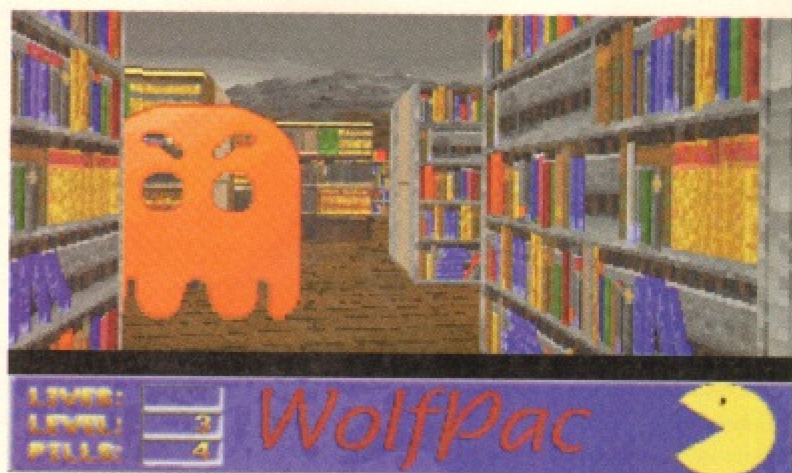
WolfPac is a 3D, first-person perspective version of PacMan. If, by some strange chance, you don't already know, the idea of the game is to run about a maze gobbling pills and avoiding ghosts. There are two types of pills: normal orange ones and blue pills. The blue pills will make you invulnerable to the ghosts for a short time (the ghost will appear to be half height). You will advance to the next level when all the pills have been eaten. Simple.

WolfPac will run on any AGA Amiga with an 020 or better and 4Mb of RAM, although a faster CPU and a graphics card are recommended. A PPC version is also supplied which requires a PowerUp board and ppc.library V45.16.

To start the game all you have to do is double click on the WolfPac icon (or WolfPacPPC for the PPC version). You will then be presented with a screen mode requester. A screen size of 320x240 is recommended. The PPC version will be playable with larger screens, though. If you need any more instructions. read the guide file provided. Have fun.

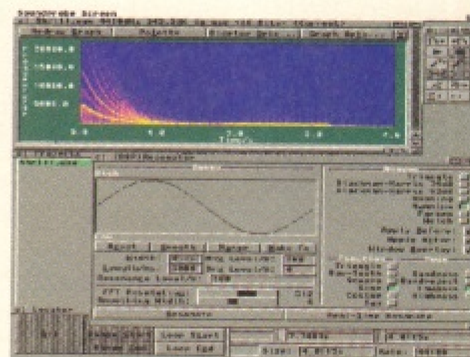
Game Controls

Keypad 8/Cursor up	Move forward
Keypad 4/Cursor left	Turn left
Keypad 6/Cursor right	Turn right
Keypad 5/Cursor down	Move back
Keypad 7/Alt + left	Side step left
Keypad 9/Alt + right	Side step right
s	Toggle fps display
f	Toggle floor rendering
Esc	End game



Sound Probe 2 demo

We've got you an exclusive demo of HiSoft's Sound Probe as well this month. You can play with all of its many and varied effects for as long as you like. The limitations are that it won't save out files and only the 8-bit disk storage system is implemented. This is more than enough to give you a taste of what it can do for your sounds. See the review in this issue for more details. The full program is available from HiSoft for £24.95. Call them on 01525 718 181.



Confused ? You won't be.

It's all a mess, isn't it. First there was PPC, then the BoXeR, then Inside Out and Pre/Box. Now Amiga Inc has a Superchip. Confusion reigns - but not for long!





▲ Concept designs: left, phase 5's Pre/Box, top the Amigo OS 4 developer's machine.

The most common question I was asked by visitors to the World of Amiga show was "Should I buy PPC?" The news of the announcement was out, and all the people who had turned up cash in hand to join the PowerUp revolution were thrown into a state of confusion as to what to do with their hard - earned cash. It was bad enough when they had to decide whether to go for a PowerUp card or wait for a BoXeR, but Amiga Inc. gave a lot of people a real decision headache. The Amiga seems to have switched from heading no-where to heading all over the place in a startlingly short time, and pretty much everyone seems to have been caught on the hop.

The players.

The main players in the unfolding drama are DCE, phase 5, Haage & Partners, Access (formerly Index), Power Computing, Amiga Inc, Blittersoft, Siamese Systems, and Amiga International. The minor players are many, and some may yet play major roles as the play unfolds. Before we delve too deep, let's look at the basic facts one step at a time.'

- Amiga Inc. are producing a future Amiga, due out in 2 years.
- Future Amiga is based on a new "Superchip".
- Haage & Partner and phase 5 have settled their differences and announced co-operation.
- Amiga Inc will have a developer's machine out in November.
- InsideOut, the Amiga on a PCI card, which plugs into a PC, is due in the summer.
- phase 5 hope to expand the PPC line and develop PPC Amigas (Pre/Box) by the end of the year.
- BoXeR will be out in the summer.
- DCE and Power have dropped the A5000, but are rumoured to have replaced it with an exciting new project.
- Amiga Inc is behind all of these "Classic Amiga" projects, and want to see them prosper in the time between now and the release of the Future Amiga.
- Phase5 want to run the future Amiga OS on PPC, and Amiga Inc. have admitted that this is possible - and something they would like to see.

The contenders.

So what do all these options offer?

PowerUp.
Available: Now.
An upgrade path to modern CPU power. Can bring vast processing power and powerful 3D graphics to your Amiga. phase 5 hope to be able to license OS4/5 to run on PowerUP cards.

Name that Chip!

Amiga Inc's secrecy over the chip company who are making the new Superchip has given rise amongst Internet regulars to an enormously popular new game of chip company guessing.
The rules are simple. Locate a possible candidate, mention them on the newsgroups. Then wait while five people tell you your guess is the best one yet, five people show you major inconsistencies in the argument, three people say your wrong (while hinting that they are in the know), and two people tell you to shut up before Bill Gates reads your posting.
Amiga Inc have assured us that whoever it is, there isn't actually any information about this project on the 'net, so we won't find it. Never mind, it is fun anyhow!

BoXeR.
Available: August
Advanced modern Amiga design. 68060 up to 75MHz, EIDE, PC standard components, faster chip RAM, 2Gb RAM capacity, ISA slots, custom slot for planned cheap PPC upgrade.

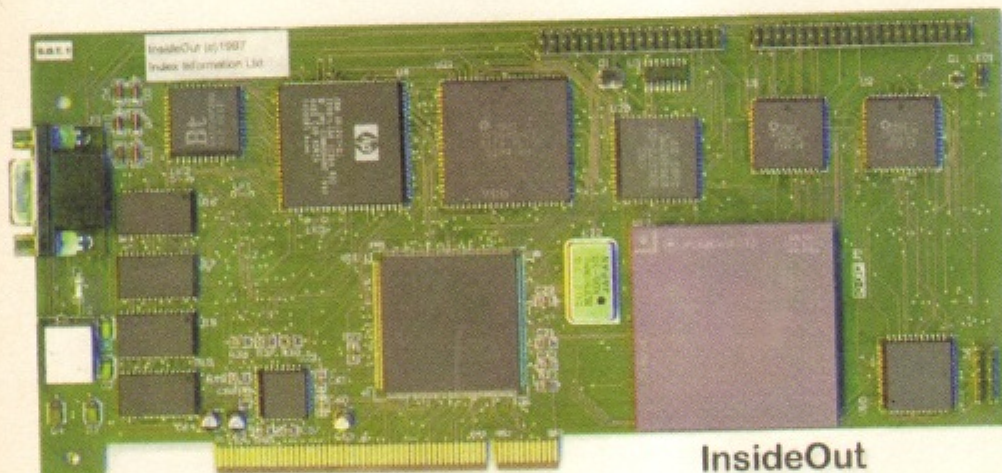
Inside Out.
Available: Summer
PCI board with full Amiga functionality. Retargets to a host PC over the PCI interface, using Siamese software but many, many times faster than Ethernet.

Developer's system.
Available: November.
Basically a PC equipped as above, but will run the new OS4 on the PC side instead of Windows.

Pre/Box.
Available: Early '99
Powerful PPC based Amigas with one or more PPC CPUs. Could eventually come in a version with several 1Ghz Altivec G4 PPCs, a prospect that would make a Cray owner jealous. If deals are signed, it will eventually run OS5.

BoXeR 2.
Available: late '99?
Early days yet, but could have PCI. A programmable graphics chip is planned which would replace the AGA chips with a single custom unit capable of all the old AGA modes. Also extended graphics modes such as 800 by 600 24 bit.

Future Amiga.
Available: late '99, early '00.
A hardware/software system that will be made available to third party manufacturers. Based on the Superchip, very powerful and could cost as little as £300. Likely to come in a range of different shades including games console, set top box and A1200 style cheap home computer.



▼ Inside Out, the Amiga on a PCI card.

An issue of OS.

Currently we have the rather dated AmigaOS3.1, and two incompatible PPC kernels, PPC.library and WarpOS. All this is changing. Amiga Inc are working on AmigaOS4.0 which consists of an API layer sitting on top of an off the shelf OS core such as BeOS or Linux. The API layer is the programmer's hardware abstraction – rather than programming to the processor directly, they program to the OS. This will include some industry standard elements such as probably OpenGL for the 3D graphics API, and will probably include Java and extended AREXX. It will be fairly fundamentally different from OS3.1, most visibly in a tweaked GUI and 24bit screens as standard, but will follow the same design philosophy. It will have Amiga trademarks such as Datatypes, but probably in some expanded form. Most of the familiar file structure of the current Workbench such as devs, libs and so on will continue on in the new OS. OS4 will be followed by a full Operating System, AmigaOS5. It is not clear at this point whether the bought - in OS core will still be used, or whether there will be a custom core written. OS 5 will be fundamentally very similar to OS 4 at the user and the application programmer level.

phase 5 and Haage & Partner are working together on a PPC kernel, which will be backwardly compatible and contain many improvements. It will include Haage & Partner's now nearly complete 68k emulator, so it will run on PPC only machines such as the forthcoming Pre/Box machines.

The two companies have also said they would like to do an OS3.5 themselves, but that is down to Amiga Inc agreeing to such a thing. Everyone we have spoken to at Amiga Inc. and Amiga International seemed very keen on this idea, and there might even be an agreement by the time that you read this. OS3.5 would run on current

FAQ

Q: So let me get this straight; there are going to be new Amigas in November?

A: **Not exactly. There are going to be Amiga bridge systems, PCs with an Amiga Operating System running on them. They will probably be dual hardware systems, including a very high end 680x0, OS3.1 Amiga in the same case. The real new Amiga will come out in November of next year; the developer's bridge system merely emulates this.**

Q: Then it's true that the new Amiga is going to have an Intel processor? I might as well give in and buy a PC.

A: **No, no, no! The new Amiga is not going to have an Intel processor in it. The bridge system runs on an Intel compatible, but this is merely for development purposes. OS4 will run on x86 as an intermediary measure, as it will allow developers to start working on the new system very quickly, around a year before the full system is available. OS5, the real Amiga OS, runs on the new "superchip" which is not Intel – Intel processors are inferior and far more expensive. Nothing Intel is working on really suits the needs of the Amiga, and the guys at Amiga Inc are perfectly aware of this.**

Q: Why are the development systems x86? Why not 68k or PPC? I don't understand the need to drag us into Intel territory, even for only a year.

A: **Look, this really is an issue blown out of all proportions. Unless you are a developer, you don't really need the new system, although the Amiga side of it should be powerful enough to be very tempting. In which case you can regard the x86 as a slave CPU good only for controlling the PCI interface and possibly running the odd PC game. The notion of cross platform development is hardly a new one for the Amiga anyway – the Amiga originally had SUN development systems, and in the days of big business programming, many coders used Amiga/PC development systems taking advantage of the Amiga's ROMWHACK debugging feature.**

Q: So this new Amiga – it's going to be a set top box, right? I mean they say otherwise, but all that talk of digital convergence makes it pretty clear that's what they mean.

A: **No. The whole point of the digital convergence philosophy is that the hardware and software will be appropriate for a wide variety of applications. Amiga OS5 will be developed in a modular fashion which will allow a number of different "flavours" of front end to be developed with the end application in mind, which may well include set top box.**

However the top level of the OS will be a sophisticated desktop computer environment –you have to work to the top level to cover all the bases for lower specification versions. Although Amiga Inc. wants to produce a system highly appropriate STB use, their reference designs will be for home computers.



▲ Concept design for one possible layout of AmigaOS4.

Amiga systems as well as upcoming designs in what is rapidly becoming known as the "Amiga Classic" line, and may be ported to PPC.

Eventually, OS5 machines will come out and at the moment, at least, everyone seems keen on the notion of OS5 being ported to PPC. Due to the way the new OS is programmed to, there would be a very high level of compatibility between the PPC and Superchip versions.

For my money...

There are a number of models of Amiga on the way, and if you think it's getting confusing, you should see what it's like buying a PC or a Mac. CU Amiga will be bringing you the low down on all the new systems as they arrive. The principle question people are asking is "should I wait?" The answer is no. The fact is that even if Amiga Inc hit all their targets, the new machine is 2 years away, and it will be a while after that before it picks up. If you are willing to wait up to 3 years, then what happens when the time comes? There will no doubt be something else marvellous in another 3 years, do you wait for that? 3 years is a long time in computing. In 1995 the 486 was king of the PC hill, yet today they are considered ancient machines. If you only have to update your Amiga every 3 years you're doing very well!

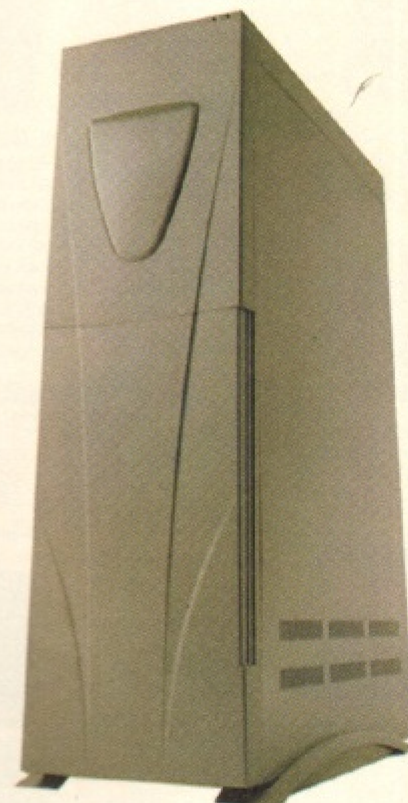
If you want your Amiga to get any faster in the next 2-3 years, that means PPC. You'll need it if you want to play more advanced games or run more powerful applications.

If you are happy with your current machine, a PowerUP card seems the best plan, while if you are after a whole new system, a BoXeR or Pre/Box or whatever DCE/Power do will be the answer. If you need PC/Alpha integration, get a Siamese PCI. In a couple of years, look for our review of the first of the Future Amiga systems, but until then Amiga Classic certainly has a lot of life left in it! ■

Andrew Korn



▲ Concept for another AmigOS "flavour" that might be more appropriate to a set top box.



▶ Blittersoft's Black Box BoXeR tower system.

Q: This superchip – shouldn't that be vapourchip? I mean it sounds pretty hot, but will it really happen? Even if it does happen, is there any reason to assume it will be anything more than hype?

A: **Well no one wants to count their chips before they're silicon, but our understanding is that this is in a rather better position than most. The development is apparently very well progressed, and enough money has been pumped into it to be confident that the investors aren't going to let it fall apart now.**

As for hype? Yes, of course there is an element of hype involved. The superchip is not the only piece of revolutionary silicon architecture that is planned for this time frame, and at the moment there is no reason to assume that it will be any better than some other things out there. The critical point about it is that the Amiga will be adopting it as a core technology from the word go, and the operating system will be designed to take these next generation functions into account. Other people will have similar hardware, but no-one else will have the dedicated computer system that will allow the hardware to be used to its fullest. The other platforms retain a legacy of older architecture which holds them right back, either in terms of power or cost; there is every reason to be confident that Amiga Inc. are on to a winner.

Q: Someone suggested that the chip was Project X, someone else suggested it was Transmeta...?

A: **I'm certain it is not Project X and almost certain it is not Transmeta. For a start, both these are far too well known!**

Q: This Superchip, who's actually making it?

A: **As far as we can figure out from the hints and snippets, it is a company, or a subsidiary unit, or an investment combined set up for the specific purpose of making a chip to meet the needs of future computing. We suspect that it is backed financially by a number of companies with a strong interest in this line of developments, perhaps not companies not normally associated with CPU manufacture.**

We have been told that they have been working for some time on this and have a good number of very skilled staff on the project. As for any names or places, you know as much as we do.

Q: Oh go on, you can tell me, I won't say.

A: **No, really, we don't know.**

Q: Will the new Amiga run old Amiga software?

A: **Yes, but it is not is quite clear how yet. It could be a software emulator along the lines of UAE, which should run pretty well on a future Amiga (the nature of the superchip makes it very good at emulation, or it may be transparent, as 68k emulation is on PPC Macintoshes. The latter would certainly be preferable.**

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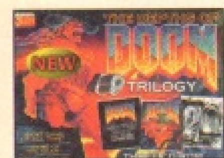


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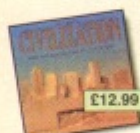


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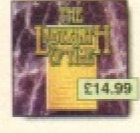




















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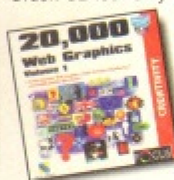


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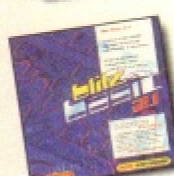
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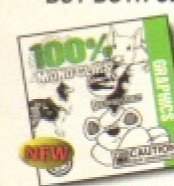


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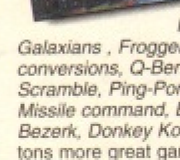
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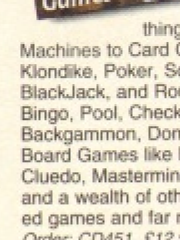


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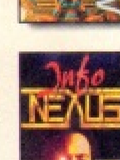
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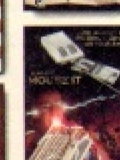
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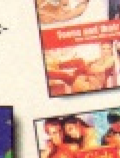


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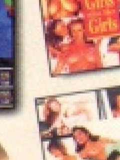


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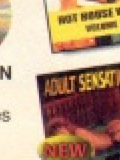
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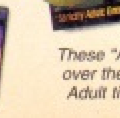
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Video Toaster Pops Up Again

It sparked a desktop video revolution in America but never made an impact east of Boston. However, with prices lower than ever, NewTek's Video Toaster now looks a very attractive prospect for all of us.



It's the card that started the 'desktop video' movement. It's the card that made entire rooms full of TV equipment look overblown, overpriced, and out of date. It's the card that put the Amiga on the map in the US. However, while in the States, the Video Toaster has been the Amiga's lifelong bussom buddy, to most non-American Amigas it's a complete stranger. NewTek's recent price cuts could mean that it's soon to find a lot more friends across the globe.

If you've never seen or used a Toaster, you've probably been fobbed off with a vague description of it along the lines of "it does video". OK, but you'll probably want to know exactly what it "does" to video. In a nutshell, it's a video card that acts as a real-time multiple input switcher, wiper, effects generator, genlock, keyer, mixer and titler, and it does all of this at broadcast TV quality.

The trouble is that it has the rather marked flaw of being designed to work only with the North American/Japanese NTSC video standard, which explains why the rest of the world hasn't got in on the act. The explanations for why there has never been a PAL Toaster vary wildly, but the story seems to revolve around two critical details. For starters, the Toaster relies rather heavily on a video processing chip which is unavailable in PAL format. But even more importantly, the Toaster works its magic with a lot of trickery and guile which relies on the characteristics of NTSC which do not exist in PAL. While there certainly may be PAL tricks which don't exist for NTSC, nobody has exploited these in the same way NewTek has with their Toaster. So, the bottom line remains, if you want to Toast, you have to do it in NTSC.

Of course, NTSC and PAL are not insurmountable barriers – in evidence because PAL countries can watch Friends and Americans can watch Doctor Who. But because of the hassle and expense, relatively few people have dared to wonder about using a Toaster in Europe. Today, however, with video equipment in general and the Toaster in particular dropping rapidly in price, it may be time to take a close look at the crowded little wonder card from Kansas.

The Toaster revealed

So, other than generating a market for thir[d] party add-ons with unfortunate names (Marmalade, The Toaster Oven et al) what['s] the fuss all about? What does a Toaster d[o] that might be remotely interesting to a se[ri]ous video producer, let alone the average dabbler?

The Toaster itself is a monstrous card that fits in the video slot of any suitably equipped Amiga. It has a few 'sandwich' boards, making it a very large and heavy thing indeed. In most Amigas (such as 3000s, 4000s, 4000Ts, and most tower co[n]versions) the sheer size of the board bloc[k]

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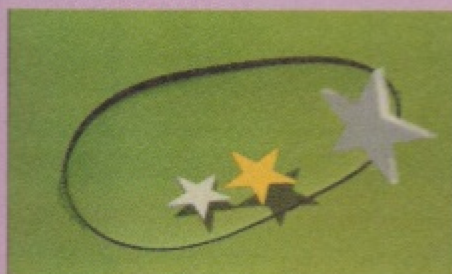
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Box of tricks

The core of the Video Toaster is the 'switcher', which essentially replicates a television switching board. The incoming video from the four inputs can be routed directly through, switched instantaneously from one to another, or 'A/B rolled' using one of hundreds of effects. The applications are as simple as using the quick-switch abilities to run a talk show or newscast-style production with two or three cameras set up across a studio, to using the Toaster to switch live between a camera and an AV device (like a VCR, a laserdisc, or a computer) for presentations and instructional videos. All of the functions can be mouse or keyboard driven – at one point, stickers were available to paste over every single key to show each function at a glance, giving serious Toaster users easily identifiable rainbow keyboards.

When the talk show or news ends, the Toaster has a built in character generator which can be used to roll the credits. If this sounds like a minor point, many Toasters were sold exclusively to replace dedicated character generators which themselves cost thousands of dollars.

The applications for using a Toaster live are enormous. Many small TV stations and public access cable centres base their entire studios around Toasters, to do everything from the news to transitions between programs and commercials and back again. They are also used in the production of the commercials themselves. But you don't have to be on television or videotape to appreciate the capabilities. Stage performances with visual aids have put the Toaster to work – a recent 'bioplay' on the first American film star (and sex scandal participant) Fatty Arbuckle made extensive use of the Toaster to show film clips and headlines on a projected screen while the performers told the story.







◄ One of the Toaster's transitional effects in action. A simple animation becomes a rather elaborate way of switching from one video channel to another.

a second slot. From the outside, you'd hardly notice anything unusual – six BNC-style connectors poke out from the backplate. Four are for video inputs, another is the main (out) display, and the last is used as the preview monitor. Since visual effects typically involve some sort of transition from one image to another, preview holds the image you will be moving to.

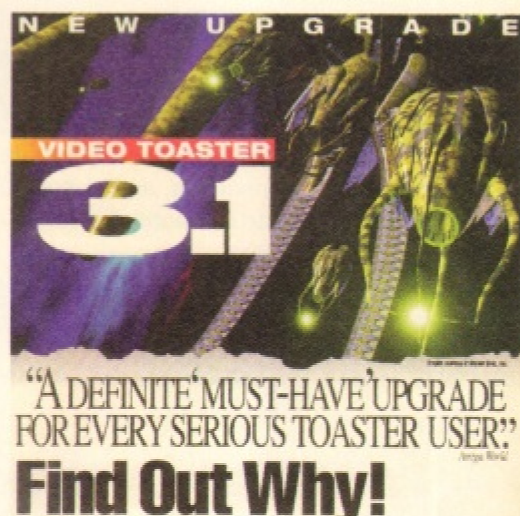
The Video Toaster comes in two flavours – the original, and the Video Toaster 4000. The significant difference is that the 4000 version takes advantage of AGA, allowing for more colourful effects and animations. It also is the best way to use the Flyer editing board. And since it was designed after the release of the A3000 and A4000, unlike the original, it is better suited for fitting in more types of machines – stories are legendary of the hassles of fitting an original Toaster in any machine other than a 2000, simply because they don't have the generous amount of internal space available to 2000 users. Speed and memory requirements vary depending on your patience level and how much work you need the Toaster to do – an 040 and 16MB of memory, along with a good-sized hard drive to store lots of animated effects, is considered a very well equipped Toaster workstation.

As seen on TV

The Toaster is well equipped for live broadcast, closed circuit, or live-to-tape productions (with little or no editing after the fact). But it can also be used to create standalone special effects – one of the classic demonstrations involves using the Toaster's 'static fuzz' transition to beam objects in and out from a live video image. The trick takes just a few seconds to prepare, and while it won't be mistaken for the effects being produced at Industrial Light and Magic these days, it's just one example of the power that has been placed inside a humble desktop computer. For those results, firing up Lightwave is the answer. Now that LightWave has been sold in standalone versions (and for other platforms) for so many years, some have lost track of the fact that for years LightWave required a Toaster.

Other switcher effects are perhaps not so practical, such as the cows which fall from the sky and pile up, obscuring the image until they fly off, revealing the new one. With special software, new transitions can be created, and the results are so impressive that it's been used, quite often, on broadcast TV. The long-running Home Improvement used the Toaster for its custom transitions (usually at least two or three per episode).

To round out the package, the software includes a paint program, and a mode called ChromaFX, typically used to generate wacky colour-cycling effects, good for anything from DJs to budget sci-fi producers. The paint program, Toasterpaint, is essentially just a HAM paint program and is not very



▲ The best advert for Toaster – what its users have achieved.

well respected – fortunately, you can also incorporate graphics created in other programs as long as they have been converted to the Toaster's Framestore format, which many image processors will do for you.

Like a real studio, the Toaster also provides an entry point for other video technology. For example, out of the box the Toaster provides 'luminance keying' which is a more primitive version of the 'blue screen' (or chrominance keying) used for so many special effects. With a relatively inexpensive add-on box, the Toaster gains quite respectable blue screen capability. Third-party manufacturers who have designed

NTSC vs. PAL

Video is a very technical medium. There is so much going on beyond what you see on the telly that it gets to be mind-boggling if you really start to break down the science of it. But because the Amiga was built so intimately in tune with video, many of us have at least a basic grasp of the differences.

The most important differences between NTSC and PAL are a question of resolution vs. refresh rate. In NTSC countries (primarily the Americas and Japan), video refreshes at 60 Hz (cycles per second) versus 50 Hz in PAL countries. The trade off is resolution – PAL's is somewhat finer. Of course, in their home countries these formats look perfectly natural to the natives, but overseas travellers sometimes claim they can see a difference. The difference is more pronounced when using a PAL monitor to display NTSC or vice-versa: for example, in the US, displaying PAL results in a rather pronounced flicker.

complementary video products can add their controls directly to the Toaster's own interface screen. And then there's the Video Toaster Flyer.

Price drops

Recently, Toaster systems have begun to sell for vastly reduced prices. The original Video Toaster card was introduced at over US$2500 (roughly £1500). The original Flyer price was US$4000 (roughly £2500), and that of course excluded the actual Amiga, plus video-grade hard drives for the Flyer. Now, NewTek offers packages based on an A4000T, plus Toaster and Flyer cards for US$5000 (£3100) all told. Video drives for the Flyer are still your own lookout, but the savings are still tremendous, and of course, hard drive prices tend to continue steadily downward in price-per-megabyte (or in this case, gigabyte).

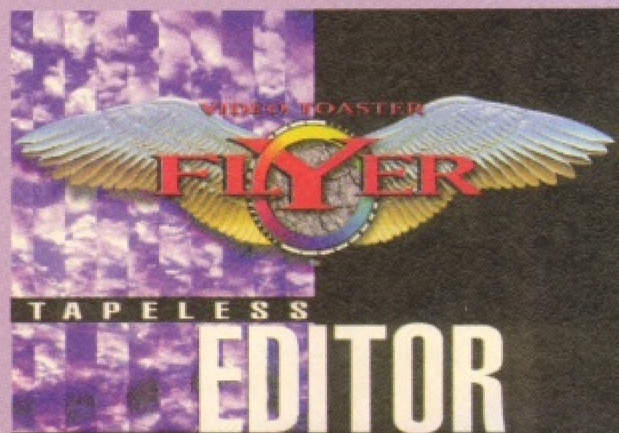
This has also created a lot of pressure on the rather active used market for Toasters and related gear. An original Video Toaster has been known to sell for just over £200. This has allowed all sorts of people who could only dream of one day owning a Toaster to take the plunge and have one in their home. At that sort of price, if you're interested in experimenting with video, it suddenly becomes very tempting.



The Flyer

The Flyer was NewTek's attempt to do for video editing what they had already done for live broadcast – make it cheap, good, and on a single card you can plunk into an Amiga. As much as the Toaster can do, if you want to create a complete production, involving lots of footage shot over many days in many locations, it can't help you put it all together, even though its switching and effects probably came in handy while you recorded all that tape.

Putting it together in a seamless, attractive manner is another story. Traditional editing consists of multiple video tape machines, which are run through dedicated editing and effects consoles. The consoles can stop or roll your various tapes of footage on command and on the fly while the 'program' (final product) tape records. Because videotape is a linear medium, this can be a tedious process. The Flyer, like other nonlinear editors, allows you to digitise all of your recordings onto the computer and then chop it all up and reassemble it in whatever style you choose before outputting your final product. In the computer, videographers gain the same luxury film editors have always had – they can literally tear their work apart frame by frame and reassemble it, but until computers and products like the Flyer came along, there was no way to break video out of the streams of tape. And just like that, the desktop TV station turned into the desktop TV station plus editing facility. All you do is put some high-grade high-storage hard drives on the Flyer bus, and you're ready to make serious stuff.



Technical considerations

There are other considerations to make. Video, like most creative media, is the sort of pursuit where you can spend as much money as you have and still not have "enough stuff". Without a video source and a place to record your video, you have very little to work with, unless you plan to use it solely with computer graphics to some sort of live video output, like an LCD projector or monitor. This is fine, but an underuse of the Toaster's abilities.

When you start feeding multiple video signals to the Toaster, it's necessary to make sure they all arrive 'at the same time'. The precise technical explanation for this issue (known as video sync) is beyond this article, but it's suffice to say that devices known as time-base correctors (TBCs) take care of this problem for you. The quality of these units varies wildly as does the price – you could spend £100 or less, or well over £1000 for professional-grade units. For most purposes, though, lower end TBCs serve just fine.

The quality of your input and output does matter. Using regular VHS tape to go in and out is not going to be pleasing to the eye. With each component your video moves through, the signal depletes, so it's best to try to at least begin with good quality video. For early experimentation, VHS is as good as anything, but you won't get gorgeous results.

What you'll need

None of this matters unless you get around the problem of the Toaster not being a PAL device. But it's well known that Toasters are in use all over Europe and beyond – one American dealer distinctly remembers putting together a Toaster/Flyer package for a member of the royal family of Oman. Because it is something of an underground affair and not without certain disadvantages and extra expense, using a Toaster in Europe is not an exact science, but with the help of Chuck Baker and John Fletcher of NewTek and Dan Sorenson of Clackamas Computers, here is a thumbnail sketch of what you need if you want to get started.

- A video-slot equipped Amiga system. This means a 2000, 3000, 4000, 4000T, or an A1200 with tower busboard that includes a full video slot implementation. The BoXeR motherboard should also suffice, as it is being earmarked for Toaster sales in the US.

- A 115/120 volt, 60Hz power supply for the Amiga system. Most modern PC power supplies come with a little slider switch which toggles between European and American power standards. If your system does not have one, you will need to replace yours.












• A heavy-duty (1000 watt or better is recommended) power converter, to power your now-115V Amiga. To give you an idea what sort of expense you can expect, Mr Fletcher, who used his Toaster while living in Germany, bought a 2000 watt model from a pawn shop for around £50.

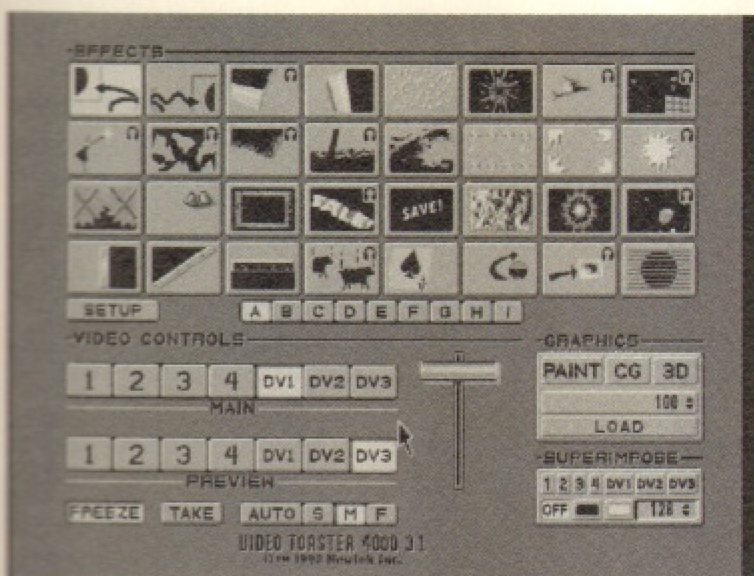
• Either of these items: an NTSC 1084 monitor, or a device known as a Sync Strainer. The Video Toaster relies on a certain signal to be provided through the RGB port of your Amiga in order to properly initialise. That signal can be found on a 1084 monitor, or can be provided by the aforementioned Sync Strainer which is a special little box that will set you back about £30. The Strainer was originally intended for Americans who did not use 1084 monitors but had multisyncs instead (which do not provide the required signal) but they will serve just as well overseas, and will certainly be much cheaper to have shipped. A regular PAL 1084 will not suffice, because the timing signal would be wrong. Of course, if you go with the NTSC 1084, you will need to power it through the power converter as well.

• A PAL/NTSC transcoding device (optional, but highly recommended). This will probably be the single greatest expense you'll have to make that a North American doesn't. The transcoder will have to convert all of your incoming PAL signals (from video cameras, source tape, etc.) into NTSC, and then back into PAL for recording. Depending on what model you choose to invest in, you may need multiple units – one (or more) for incoming video, one for outgoing video. Once again, the expense will largely be dictated by your willingness to pay and your concern for quality. Mr Sorenson recommends serious PAL Toaster users consider the Passport 4000, a high quality transcoder from Prime Image. Prime Image can be contacted on: + 1 408-867-6519.

• A Y/C Plus or similar board (optional). The Toaster's inputs and outputs are composite video, which is not nearly the best quality in the world. The Toaster can be upgraded to support superior S-Video with the Y/C Plus card. Because each additional component in a video chain degrades the signal, and transcoders are so important, that signal quality will get worse even faster. Using Y/C Plus and S-Video sources means there's more room to give in the video signal. Unfortunately, this is an additional expense, and S-Video transcoders are similarly likely to be more expensive, but if quality is the goal, this should be a serious consideration.

Alternatively...

You can still do some work to tape without any transcoders at all, or at least with one fewer. The alternative would be to purchase an NTSC VCR from overseas, plug it into the power converter, and use it as the record deck. That doesn't solve the problem of inputs – you can always use the computer graphic outputs, of course, but any camera or tape inputs still need to be converted to NTSC by a transcoder. But by recording to an NTSC VCR, you can use that for viewing on a suitable monitor, or perhaps even easier, play it on one of the growing number of consumer PAL VCRs which support NTSC playback. Professionals tend to upgrade their video equipment at a fairly rapid rate. If you're really interested in the field but have a tight budget to work with, it would be worth your while to enquire of several video production firms or broadcast facilities how they dispose of their disused gear. Even better, become involved in a local film or video community – like many professional and creative endeavors, one video person tends to know someone who knows everyone else, and by making a few contacts in key places you might be let in on an equipment firesale before anyone else. A good many Toaster studios have been built from castoff pieces of larger video firms.



▲ The video switcher control panel – check out those crazy effects.

▲ ToasterPaint in action.

Getting into video is a serious investment no matter how you do it. Using a Toaster outside its native land does create some additional headaches and expense. There's no way around that. On the other hand, there's simply no substitute. You can buy standalone switchers and effects machines, or try to replicate some of the functionality of the Toaster with software like Scala, Monument Designer, or X-DVE.

All of these programs are very capable (and each does a few tasks better than the Toaster would), but none of them offers the unique combination of power at your fingertips as the Video Toaster. Headaches and all, if you're a frustrated genius with a story you're just dying to tell on the small screen, investigating the Video Toaster would be a smart move. ■

Jason Compton

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Audio Magic

You'll be amazed at what your Amiga can do when it comes to sound. It's true! There's virtually no computer-controlled audio process that's beyond your Amiga, and it needn't cost the Earth. Allow Tony Horgan and Dhomas Trenn to convince you...

Think of Amiga audio and what springs to mind? An underpowered 8-bit sound chip? A 'Techno Tragedy' case that lost out to the Atari ST because it didn't have MIDI ports built in? A nice idea but hopelessly out of touch and out of date? A joke compared to 'professional' PC and Mac audio systems? If so, you need a serious update on the situation! Things have changed a lot in recent years, and 1998 has seen things progressing at a faster rate than ever before. See the panel for a selection of amazing audio feats that can be performed.

Of course you can still do everything you could before, including a limitless array of slightly more obscure and specialised applications (sound effects for theatrical productions, on-the-fly sampling for DJs, standalone realtime effects processing, editing suite for outboard samplers, multimedia CD audio production...)

Even if you don't have a Zorro equipped Amiga yet, in the very near future you'll be able to do all of this from a bog standard A1200! Add a fast SCSI controller, preferably via an accelerator, plus the forthcoming Melody1200 sound card (which plugs into the clock connector on the motherboard) and you're away. Better still, go for Zorro and the all the wonders of professional digital audio will be yours.

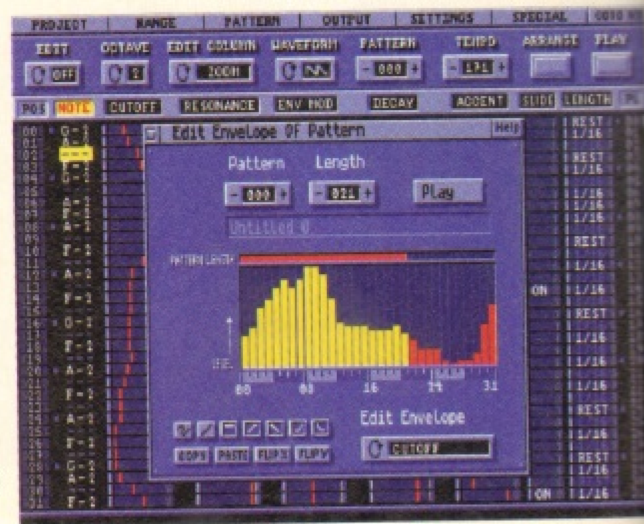
Over the following pages you'll find a round-up of all the most exciting new audio developments alonside a few bits and pieces that have been lurking in the shadows for a while. To get you up to speed, let's take a look at what's been happening over the last couple of years.

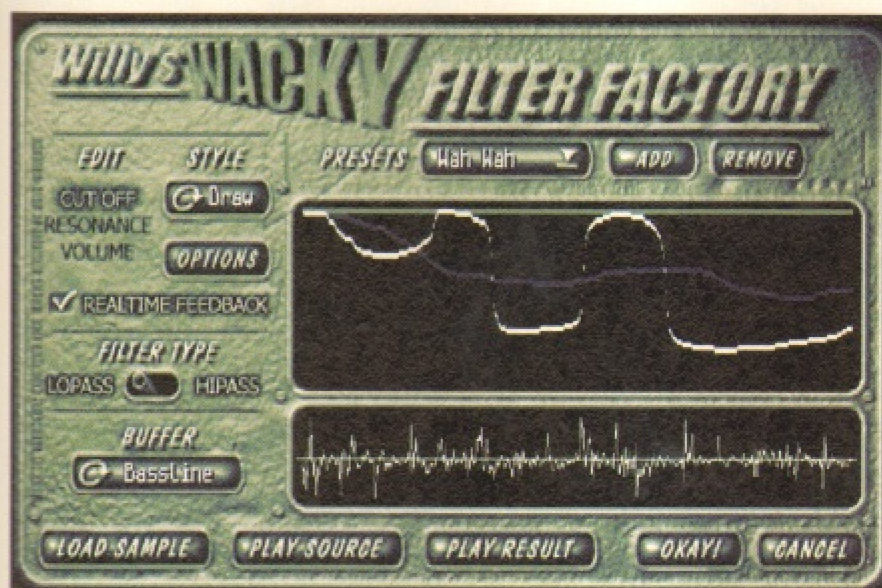
Overcoming old limits

Four mono (or two stereo) channels of 8-bit audio can produce good results, but these days those specifications are laughably low. They are imposed by the Amiga's standard sound chip known as Paula. One way or another, the Amiga's inventive community of hardware and software developers have banished these limits to the pages of history. Thanks to some clever trickery, you can get 14-bit output from Paula with most audio software, while 16-bit audio is available via a range of sound card expansions.

The four channel limit is now obsolete due to a new approach to replaying audio. These days any decent bit of audio software either has direct support for sound cards or uses AHI (Audio Hardware Interface) which is a bit of software that redirects the program's sound to your chosen sound card. To take OctaMED SoundStudio as an example, instead of using Paula and the standard Amiga hardware functions for replaying sound samples, it does all of the sound processing itself, which includes the mixing of a theoretically unlimited number of tracks, and finally passes a single stereo audio stream to the sound card or the Amiga's internal Paula sound chip.

Most Amiga sound cards are quite simple. For example, Toccata does nothing more than play and record 16-bit stereo or mono audio at one of a number of rates up to and above that of CD audio. Some have their own unique features, such as Delfina which can add echo and distortion effects while it plays and records. However, because the only thing they all have in common is the ability to record and playback 16-bit audio, in order to use the additional functions you need software written specifically for the card, which tends to be





quite scarce. An AHI driver is available for most sound cards, which is enough to make them available as a 16-bit input and output for any software with AHI support.

One of the most powerful upshots of this new method of replaying audio is that the final digital audio stream can be directed to a hard drive as well as a sound card. That means you can record direct to a hard drive (or other media such as Jaz cartridges), negating the need for a DAT or any other type of conventional recorder. You can then write an audio CD from the resulting hard drive file. This kind of hard drive recording is available via AHI, OctaMED SoundStudio and a few other SoundStudio-type trackers.

Introducing CD-R

Another of the most exciting advances concerns CD-R: recordable CDs. Just a couple of years ago the thought of setting up a CD writing system would have your wallet running for cover. The drives were expensive and so were the blank discs. Not only that, but the software was at a stage that required you to shell out for a major amount of SCSI hard drive capacity too. Things have changed in a few ways: most obviously and predictably, the price of CD-R drives has fallen dramatically, and so has the cost of the discs themselves (now available for between £1 and £2 depending on the size of your order). In addition, there's no need to have a second SCSI hard drive onto which to build your CD image before burning it to the actual CD. The software has advanced to allow CDs to be burned direct from the original files.

At the same time, hard drive recording and editing software has come on tremendously. Take a look at Samplitude and Sound Probe on this month's cover disks and CD and you'll be very pleasantly surprised. For example, Samplitude can now save out an entire CD's worth of audio as an AIFF file which includes embedded track markers. You could, for example, record a 70 minute continuous DJ mix to hard drive with Samplitude, add track markers, save it and copy it direct to an audio CD, even fixing up your mistakes along the way.

Multitasking master

Never forget that your Amiga is an expert when it comes to smooth multitasking. For example, with a decent CPU (preferably an '060) you can comfortably have one program sequencing a bunch of MIDI devices while another program acts as a realtime effects processor, adding all kinds of effects to any one or all of your external MIDI instruments. Alternatively you could set yourself up with a MIDI sequencer controlling your MIDI instruments, pass them all through a mixer and into a sound card, and have Samplitude record it all to hard drive in CD quality stereo.

If you have a sound card, you actually have two independant audio outputs (the sound card and Paula), each of which can be controlled by different programs at the same time. The use of your internal Paula sound chip puts virtually no strain on the computer's CPU (so long as you don't use 'mixing' techniques), so using it in conjunction with a sound card won't slow things down. Put your mind to it, experiment and you'll come up with schemes and ideas you never thought possible.

Save money

Your Amiga can also save you a lot of cash. For instance, classic analogue synths can fetch silly prices on the second hand market, and often won't integrate smoothly into your MIDI setup. With 'softsynths' like the forthcoming 303Tracker, you can have a virtual analogue synth on your Amiga that outputs totally clean samples ready for you to use in your prefered sequencer or tracker.

Basically, when it comes to audio, if there's something you've seen done on any other computer, it's almost certain you can do it with your Amiga, normally for a fraction of the cost and always in a far superior environment.

Try this for size

Thanks to recent developments you can now do all of the following and more:

- **Compose, record and master a complete record to CD with no outboard mixers, effects units, keyboards or recorders at all**
- **Digitally edit a completly seamless CD album and burn it in one go complete with track markers**
- **Use you Amiga as a MIDI sequencer and 16-bit hard disk recorder or realtime effects unit at the same time**
- **Emulate thousands of pounds worth of classic discontinued analogue synths and drum machines**
- **Process any sound with just about any audio special effect ever devised, including all the latest fads and favourites**
- **Convert and use virtually every type of sound file in existence and copy sounds direct from normal audio CDs**

Samplers & Sequencers

The core of your music making set-up is going to be either a sampler and a tracker or a MIDI sequencer. Here are some of the best...

When it comes to making music from scratch you've got two choices. You can either use a sample-based tracker-type program in conjunction with a sample editor or take the MIDI sequencing route. Both have their advantages and limitations. With MIDI of course you'll need to splash out on some external MIDI sound modules and preferably a keyboard. This allows you to expand your system as far as your budget will take you but isn't the cheapest way of making music. We've not gone into detail on the subject of MIDI and outboard MIDI equipment as that's really a whole separate issue in itself and it would be impossible to cover even a small percentage of the available MIDI instruments you could use. However, take a look at the MIDI sequencers panel for a list of what's available on the software front.

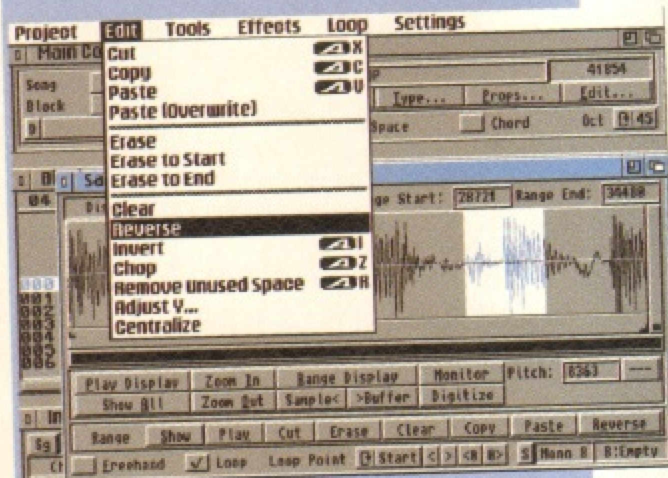
Generally MIDI and Amiga sampling don't go together too well. This isn't for any particular technical reason (any Amiga can play samples and send MIDI information at the same time) but merely due to the focus of the developers. Tracker developers tend to disregard MIDI functions and MIDI sequencer developers treat 8-bit Amiga samples with contempt. Most MIDI sequencers were developed well before advances were made in 16-bit Amiga audio, so there's nothing much going on with that combination either. There are exceptions to the rule however, such as OctaMED SoundStudio which incorporates MIDI sequencing seemlessly into its sample tracking.

Other trackers of note include variants on the original SoundTracker, such as ProTracker. This is now looking very flaking and dated, limited to four channel 8-bit output in most cases. These are remnants of the old school of Amiga audio – the day's we're trying to move away from now. More interesting is Symphonie, which takes the tracker idea but advances it in a similar manner to SoundStudio. It offers a window-based interface that desparately needs some order, but anything has to be better than the system-hostile control panels of the old ProTrackers. It also offers mixed output featuring realtime effects processing.

Sequencers

MIDI sequencers haven't exactly come on in leaps and bounds in recent years, although that doesn't really matter all that much. At heart a MIDI sequencer is a very simple thing. It 'listens' to the MIDI interface plugged into your serial port and

OctaMED SoundStudio

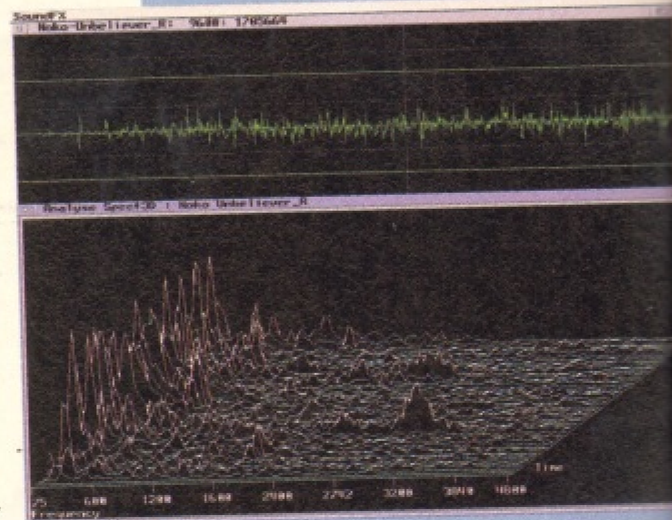


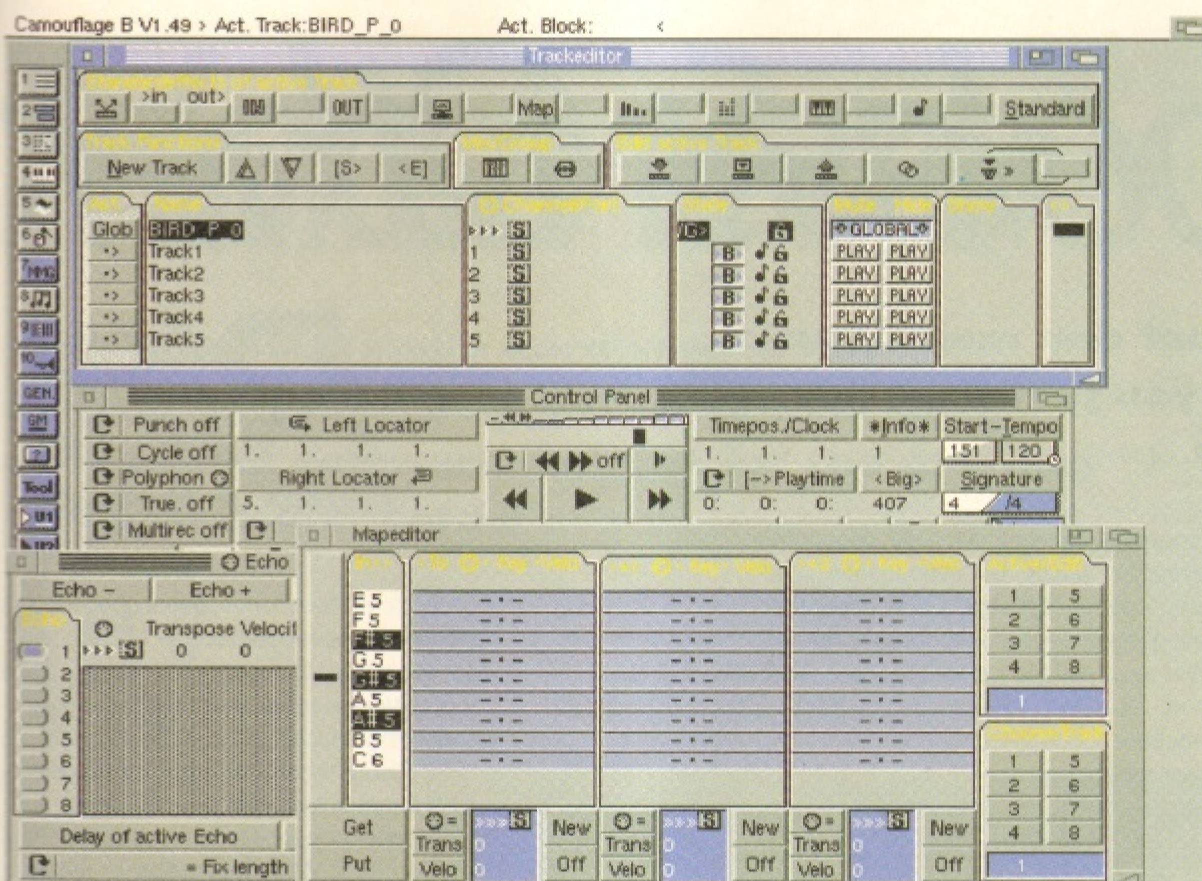
OctaMED transcended the tracker genre from which it emerged many moons ago. Now it's out there in a league of its own, although it's been in a state of hibernation for a couple of years now. It does have a few rivals snapping at its heels, but still its direct support for most common Zorro sound cards and its multi-track mixing abilities make it the first choice for anyone who wants to stick with tracker-style editing but wants more power, flexibility and the chance to be rid of 8-bit samples. Unfortunately its disappointing sales have lead its original development team to move on to the PC, but in the true spririt of the Amiga, it has been picked up by a new developer that is currently working on a version 2 release. This will include direct support for the Melody and Melody 1200 sound cards, which also happen to be developed by the same people. Version 1 is available for next to nothing on CD from Wierd Science and was included on the March 97 issue of CU Amiga.

SoundFX

SoundFX is probably the best shareware digital audio processor for the Amiga. It includes over 50 effects (everything from echo to surround sound encoding). All functions have extensive parameter and modulation options and the capability to save/load effect configurations.

An extensive ARexx command set gives you almost complete control over this application, with the ability to automate functions or even create custom effects. Support is included for all common audio file formats and many unusual ones, too. Audio output is possible through the Amiga's built-in audio hardware (with 8 and 14 bit implementations) or using the AHI system.





Studio 16

Studio 16 was the first serious audio hard disk recording system to appear for the Amiga. It features a powerful time line editor which not only triggers audio samples but can also control external programs through ARexx, making it a full multimedia system. Its frame accurate timing and ability to sync to SMPTE time code make it perfect for video/film projects. It is capable of playing up to 8 tracks (AD516) or 4 tracks (AD1012) at 44.1 kHz, with simultaneous record and playback. The software has not been officially updated since 1994. However, due to the recent surfacing of some long lost developer documentation, the program has been getting some new attention and the hope of some new enhanced modules in the future. Related: QMaster (cuelist file manager), Studio16add (developer documentation and add-on tools), Studio16-Dev (v2.05 developer mdocumentation), SuperModel (GUI patch) and the Studio 16 support website (FAQ, email list, files).

record notes, volumes and other performance data transmitted by your keyboard onto a timeline. You can then move this data around the timeline, add new tracks over the top, and then get the sequencer to send all the information back to your MIDI instruments. There, that wasn't difficult was it? There have been a few developments (see Dominator and Camouflage) but aside from that you're looking at software that stopped in its tracks some years ago. One of the less impressive examples that was doing the rounds a while ago has since reappeared for free download via the web. Sequencer One is now available for free by way of a promotion for Sequencer One Plus. If you've got web access you've got nothing to lose by taking a look.

Bars & Pipes Pro

Bars and Pipes Professional is the most powerful MIDI sequencer available for the Amiga. Its interface is a bit different, but once you get used to it, it presents many creative possibilities that are unavailable with similar programs. Although B&P Pro was abandoned during the Microsoft takeover, the availability of developer documentation leaves it open for further expansion. With it now being freely distributable it is an application that every Amiga musician should have. Related: websites (Modern Plumbing and Richard Hagen's B&P), an email List and the Triple Play Plus (48 channel MIDI interface).

Music-X

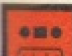
Before B&P Pro came along, Music-X was the best MIDI sequencer available. The addition of an ARexx module opened up lots of new possibilities for creative MIDI message processing. Music-X provides for additional MIDI channels (>16) though custom drivers; however, most of the supported hardware is difficult if not impossible to find. Related: Music-X_Macros, MusicXMagic and MusicXRexxMacs.

Camouflage

Camouflage is a promising looking alternative for MIDI sequencing, which seems to be on the right track. But, it appears that with no updates for over 2 years and unreachable web and email addresses, that this project may have been abandoned.

Dominator

The author of Dominator, Luc De pauw, has moved on from the Amiga, but will be releasing one final update that adds AHI support and event editing. It will appear on his website in early July, and will also include a free key-file. He is looking for someone to take over the development, so if you are interested get in touch with him.



ProStation

The soon to be released ProStation promises to usher in a new era for digital audio processing on the Amiga. Directed at high-end Amiga audio professionals, this digital recording/processing system will combine all the best features of existing Amiga software (multi-track graphic time-line editing, graphic mixing, high quality effects processing, ARexx, B&P synchronization, greater than CD quality) with that of more advanced Mac/PC audio applications. This program is sure to create some excitement in the Amiga music community and we'll be first with the news, so watch here for a full preview of this great new Amiga offering.

Where to get them

Bars & Pipes Professional - Blue Ribbon Soundworks - $ Free http: members.theglobe.com/geoarn/
http: www.in2net.com/bws/blue
Bars & Pipes Professional Support Site
http: www.execulink.com/~jtech/b&p/
Camouflage - I.S.M. - DM 139
aminet: mus/midi/camouflage149E.lha
Dominator - Luc De pauw - $ FreeWare
http: www.ping.be/raversgarden/
email: Luc.DePauw@ping.be
aminet: mus/midi/dominatorV1_51.lha
Music-X - Hollyware/Microlllusions - $ Discontinued
Music-X Macros - Gareth R. Craft - $ Freeware
http:www.midicraft.demon.co.uk/~craftbro
email: craftbro@midicraft.demon.co.uk
aminet: mus/midi/Music-X_Macros.lha
ProStation - AudioLabs - $ TBA
http: www.audiolabs.it
email: info@audiolabs.it
SoundFX - Stefan Kost - £20 US$30
http: www.imn.htwk-leipzig.de/~kost/SoundFX.html
email: kost@imn.htwk-leipzig.de
Studio 16 - SunRize Industries - $ Discontinued
Studio16add - Kenneth Nilsen - $ FreeWare
email: kenny@bgnett.no
aminet: dev/misc/Studio16add.lha
SoundStudio - Weird Science
Tel: 0116 246 3800
Sequencer One
Software Technology Ltd
http://www.software-technology.com



Tools & Other Bits

You won't get by with just one major music application. Sometimes you just have to reach into your tool bag...

No one piece of software is going to do all the jobs you always want it to. Sometimes you might find you've got an alien file format that won't load directly into your prefered workstation application. Whatever it is you do, it's likely that at least at one time or another you'll be glad you got some of this stuff at your disposal.

Sound file convertors

AmiSOX is the "Swiss Army Knife" of sound file conversion. It supports most of the common formats as well as some more unusual ones. If you have a sound file to convert this is the first program to look at. It can also perform some simple digital processing functions.

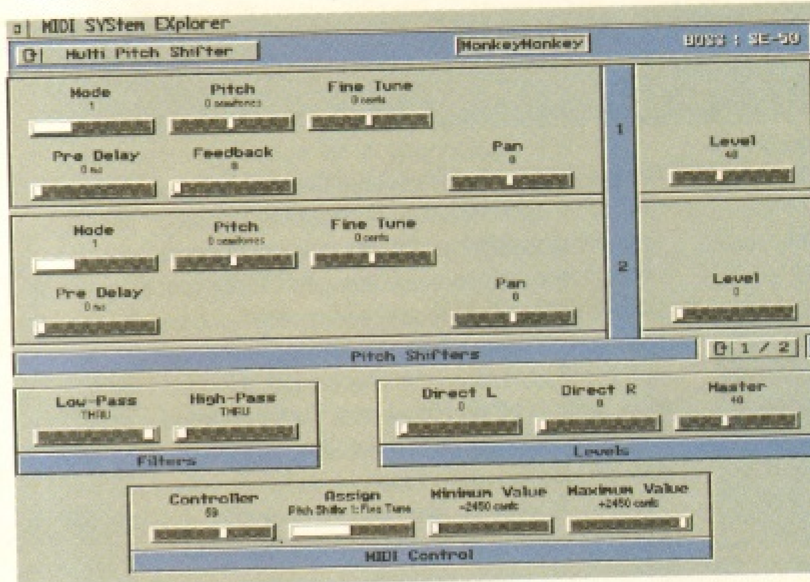
If you want to convert audio files for writing to CD or for use on the Flyer, Audio Thunder is the answer. In addition to conversion, it also provides basic cut/ paste/ effect and auditioning functions. A time sequencing editor, for merging multiple audio clips into a single clip, is also included.

MPEG audio is becoming a very popular music format because of its high compression; though unfortunately, it is mostly being used for music piracy. The encoding process can take a long time, so a fast machine is recommended. However, either mp3enc or the newer 8hz-mp3 should do the job nicely regardless of your system speed. No known Amiga applications will load RealAudio sound files, but most can load something in raw format. The tool to make this conversion is RA.

Sample players

At the top of the list is Play16, providing support for most popular sound formats up to 16 bit at 56 kHz in stereo. It supports playback through the Amiga's built-in hardware (Paula), AHI and the MaestroPro and Prelude sound cards. For low memory conditions or large sound files, Play16 can even perform real-time play from hard disk. It also works well in conjunction with RA to play RealAudio files.

If you want to play the popular MPEG-3 song files that proliferate the internet, AmigaAMP (formerly MPEGAHI) is the program to use. If you do not like the Amiga gadgets, it will load WinAMP compatible "skins" for a nice, but slow loading, 256 color interface. AmigaAMP is capable of doing real-time decoding on an 060 at 50 MHz or at half the sampling rate on an 040 at 40 MHz. PPC users will enjoy additional functions.



The problem with MIDI song files is that the only people who can listen to them is other MIDI musicians. Even those people will not hear the song properly if they do not own similar sound modules. GMPlay is a virtual GM module that substitutes MIDI channel notes for hard disk sample triggering. The distribution includes many GM standard sounds, but if they are not to your liking, there are several alternative archives available. You can also use your own custom sounds, so non-GM compositions can also be played or arranged.

MIDI Tools

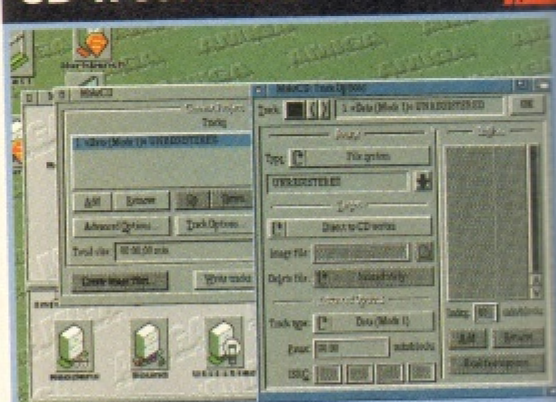
With many MIDI setups, it becomes more and more difficult to organize the ever-growing accumulation of MIDI data files. One possible solution is a MIDI librarian like Patchmeister. Designed to be used as a stand-alone program or a B&P Pro add-on, it covers many of the basic needs of a librarian. However, with no available documentation and some dead-end limitations it is not the final solution. But, being one of the Blue Ribbon freebies, it is worth having a look.

Another option is an upcoming program called MSE-Snapshot. With it, you simply define a project (song) and assign MIDI devices to it. Then, with a click of a button, MSE-Snapshot will retrieve all MIDI data from the associated devices. To recreate th[e] song setup, select an existing project and let the program do all the work for you.

With so many different user interfaces on musical devices it can become very confusing to edit sounds. What would help is a common interface for all devices. The solution is the "Universal Patch Editor" (UPE); a great idea, but the reality is that with so many different and changing MIDI implementations the UPE is a myth.

A more realistic solution is MIDI SYStem EXplorer (MSE). It does not claim to be a UPE, but does strive to solve many of the problems. It comes with everything you need to create your own fully customized MIDI control systems. To create device specific modules, MSE uses a special definition language that even non-programmers should find easy to use. With it, you can customize almost everything, including: screens, windows, fonts, colors, graphics and gadgets. MSE can control all kinds of MIDI data, so it can be used for almost any MIDI control applications, inclu[d]ing: patch editing, mixing, lighting and laser displays.

CD-R software



There are a number of capable CD writing packages available these days. Take a look in on this month's cover CD for a very capable version of MakeCD. MasterISO and BurnIt ar[e] also names to look out for.

Hardware

Updating your audio hardware is now a realistic and practical option thanks to widespread software support for the growing range of sound cards.

Whether through AHI or direct software support, there are now many ways you can make use of a sound card expansion with your favourite audio software. The days of sound cards being tied to their own software are gone, leaving you free to mix and match pretty much as you see fit. Here's a round-up of the major contenders.

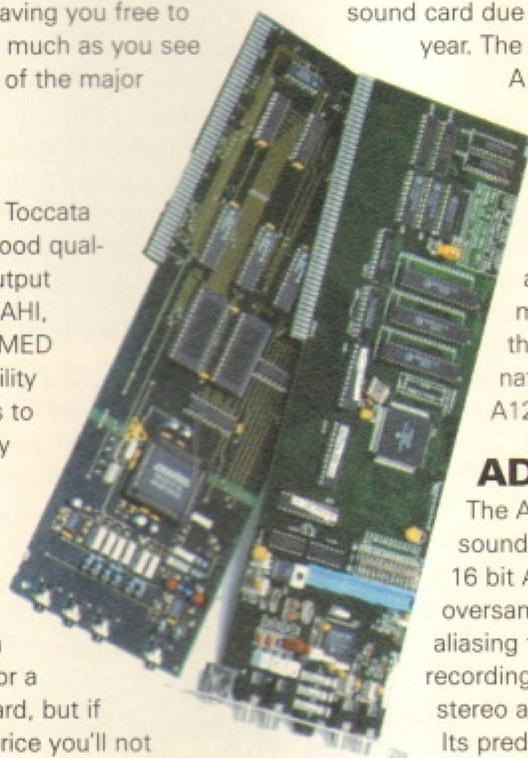
Tocatta

If you can find one, a Toccata card will give you a good quality 16-bit input and output that's well served by AHI, Samplitude and OctaMED SoundStudio. Availability of these cards seems to have dried up recently so your best bet is probably to keep an eye on second hand ads. It was originally on sale for £299 which was a lot of money to ask for a basic 16-bit DA-AD card, but if you can get a good price you'll not have any complaints.

Maestro Pro

The Maestro Pro is a fully digital audio card. It includes one digital input (selectable: optical or coaxial) and one digital output (optical). Do not let the coaxial input fool you, although it is an RCA connector it will not work with analog device outputs (synth, cassette player, etc.). It is capable of operating at 48 kHz (internal sync) and at 32/44.1 kHz (external sync).

Why would you want one? One of the problems with sampler cards is that they are subjected to all kinds of computer interference, which can add noise to your recordings. A better alternative is to use an external digital recorder (such as DAT) to record analog signals and then transfer them digitally to the Amiga using this card. Or you could directly transfer sounds/songs from a CD/laserdisc player or other device that has a digital output without any loss of quality. It can also be used to remove SCMS copy protection from DAT recordings. As an audio output card (AHI) it is capable of better than CD quality output.



Melody

There are a few variants of the Melody sound card due for release later this year. The most interesting is the A1200 version which attached to the clock connector on the motherboard (didn't know you had one of those did you?). Details are sketchy at the moment but it could be the one worthwhile alternative to converting your A1200 into a Zorro tower.

AD1012/AD516

The AD516 is an analog sound card/sampler with dual 16 bit A/D converters, 64 times oversampling and preset anti-aliasing filters. It is capable of recording and playing back in stereo at rates up to 48 kHz.

Its predecessor, the AD1012, has a single 12 bit linear A/D converter and is capable of record/playback in mono at rates up to 48 kHz. Unlike the AD516, its anti-alias filters are variable (which can be used for some often interesting effects). Both cards are equipped with an LTC SMPTE time code reader and an ADSP2105 sound coprocessor rated at 10 MIPS. The AD516 was rumoured to have a digital audio add-on, but this never made it past the prototype stage. An AHI driver does not exist for either of these cards at this time.

MIDI interfaces

There are dozens of MIDI interfaces available for the Amiga. They can be easily found, new and used. In most cases, they provide one MIDI IN, one THRU and one OUT. It is important to note that most devices that have additional OUT connectors do not allow for more MIDI channels. One exception is the Triple Play Plus, which was designed specifically for B&P Pro. This device provides three independent OUTs, allowing an additional 48 channels of MIDI transmission.

Most interfaces connect to the serial port and are compatible with the majority of MIDI applications without a custom driver.

Other options

Most of the other options for non-Zorro Amigas are limited in various ways but recent software developments have made them more practical. For example, Aura and Clarity 16 both offer A1200 and all other Amiga users respectively the chance to get into 16-bit sampling – Aura is actually 12-bit. Sound Probe has drivers to support both of these.

Delfina DSP

The Delfina DSP sound card is interesting for its extra digital signal processing abilities granted by the DSP chip that forms its brain. Unlike most other cards which simple input and output 16-bit sound, Delfina can add reverbs and other effects the audio stream along the way. The card comes with its own effects control software which doubles up as a sampler, although sadly third party support for its DSP features has so far not materialised.

Where to get them

AD1012/AD516 - SunRize Industries - $
Discontinued

AmigaAMP - Thomas Wenzel - $
FreeWare
http: amigaamp.amiga-software.com/
email: wenzel@unixserv.rz.fh-hannover.de
aminet: mus/play/AmigaAMP.lha

AmiSox - David Champion - $
FreeWare
email: dgc3@midway.uchicago.edu
aminet: mus/edit/AmiSOX33.lha

Triple Play Plus (clone) - OCTAVE 2 media - US$166
http: www.octave2.ch/amiga/amiga_e.htm
email: info@octave2.ch
tel: 41-32 325 33 71

Soft Synths & Stuff

Why add synths outside your Amiga when you can have a load of them gurgling away on the inside?

WaveBeast

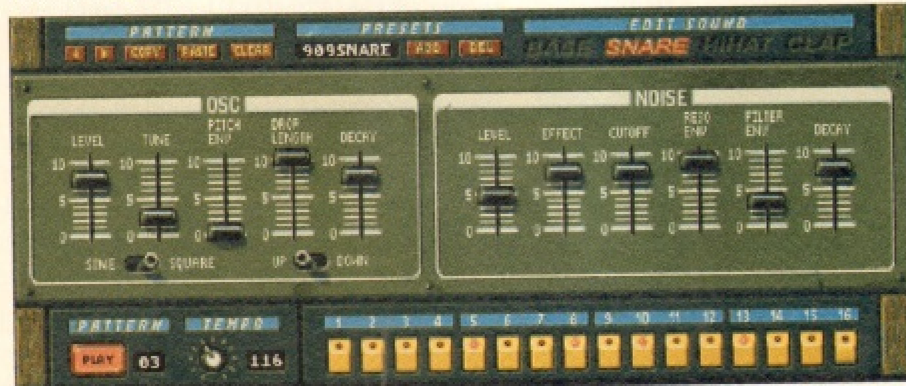
WaveBeast emulates a two oscillator analog synthesizer, including: multiple waveform selection, filters, envelopes, modulation, and basic effects. It can be programmed using its 64 step sequencer, which provides control of tempo, transposition, slide and portamento. Sound generation requires an intensive calculation process, so the more CPU power it has the better. The length of created sounds is dependent on the amount of memory available.

FMsynth

FMsynth emulates a six operator frequency modulation synthesizer (such as the Yamaha DX7). It includes parameters for pitch and amplitude envelopes, modulation, key scaling, phase, level, detune, feedback, transposition and more. Sounds are created in 8 bit and saved as 8SVX format. The calculation process is very fast. Almost 300 patches are included as examples.

303Tracker

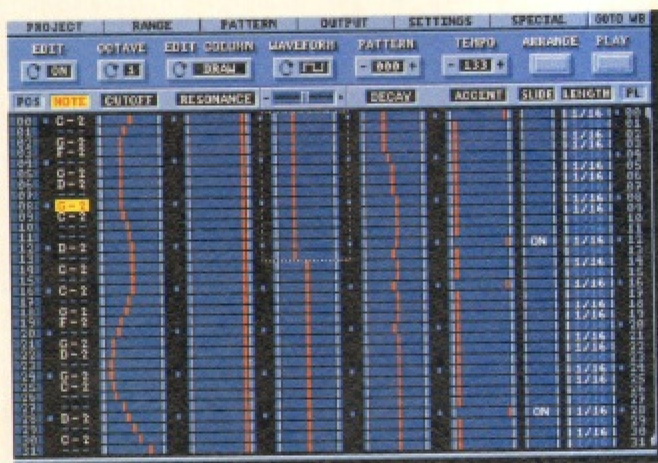
Son of 303Emu, 303Tracker aims to bring us the incredibly realistic TB303 emulation of its forerunner in a new improved, easy to use format. The rather hacky initial incarnation allowed you to generate samples that were exactly like the sound of the 303 acid box, but if you wanted to make sequences you had to use an awkward scripting system. 303Tracker will offer a familiar tracker-style front end allowing notes, filter settings and slides to be programmed with ease, then rendered as 8 or 16-bit samples. Synchronisation with OctaMED SoundStudio is also promised. We'll let you know as soon as it's ready!



Speech

The Amiga's built-in speech system (narrator.device/translator.library) is quite powerful. Though, using the Say command, you would never know it. SpeechToy adds fourteen more variable parameters to that of, say, giving control of everything from articulation to enthusiasm of the computer speech. It also adds direct phonetics entry and translation. There is also a replacement translator.library which adds the capability of multi-lingual speech. It includes a system of pronunciation rules, called accents which extend the speech beyond the American English bias of the original. Many accent files are available, including: Polish, Italian and even Klingon. This new translator is backward compatible with the old and also faster at phonetic translation.

Wish you could capture the Amiga speech as a sound file? There is a rare and little known utility, called Say To Raw, that will let you do just that. It re-routes output from the Say command to a raw audio file, allowing you to use speech in whatever situation you choose. ■



▲ 303Tracker is set to be one of the most exciting developments of the year for fans of Roland's long-since discontinued analogue bassline synth.



AHI

With so many different sound cards available, the Amiga needed some kind of standard to access them consistently. So, Martin Blom created the Audio Hardware Interface (AHI). AHI makes it easy for audio application developers to add support for most sound hardware without having to create custom drivers for each.

It allows programs to share audio resources so that several programs can process sound simultaneously. AHI drivers already exist for the Amiga's internal audio hardware, as well as most popular sound cards. Most major audio applications, and many games, include support for AHI.

Availability

AHI – Martin Blom - $ FreeWare/Donation
http: www.lysator.liu.se/~lcs/ahi.html
email: lcs@lysator.liu.se
aminet: mus/misc/ahiusr.lha

FMsynth – Christian Stiens - US$20
aminet: mus/misc/fmsynth37.lha

Say To Raw – RenÈ Eberhard - $ FreeWare
http: www.icbl.hw.ac.uk/~cjs/amiga.html

***SpeechToy** – Chris Demiris - $ FreeWare*
aminet: util/wb/speechtoy2.lha

WaveBeast – Marco Thrush/Jan Krutisch
$ Freeware
http: www.rzbd.fh-hamburg.de/~s1469005/amiga/wavebeast.html
email: Jan.Krutisch@rzbd.fh-hamburg.de

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EYELINE - *Bringing you the latest Amiga News from Eyetech*

EZPC spec boosted

30-bit A4 flatbed scanner & 64MB now included as standard

The EZPC is now the cheapest way to get a highly spec'd Amiga 1200 - over 40% cheaper than a Zorro3 solution - and you get a free PC thrown in!

Eyetech has enhanced the specification of the EZPC-Tower conversion for the A1200 giving purchasers the use of peripherals now accepted as standard accessories by PC users, but hitherto very expensive - if available at all - in their dedicated Amiga form.

Eyetechs new EZPC-Tower configuration now includes:

- EZ-Tower-Plus with k/b, k/b adapter & 250W PSU
- 30-bit, single-pass A4 flatbed scanner & OCR s/w
- 2 additional high speed serial and one bidirectional printer port
- 32-speed CDROM (with the option to upgrade to a CDReader/Writer for just £199.95)
- 24-bit frame grabber (composite or SVHS source), including motion video & sound recording.
- 3.2GB of additional hard disk space.
- 16-bit, 32 voice wavetable sound card with midi interface and direct-to-disk recording software
- Amiga-accessible high density floppy drive
- High resolution graphics card with full screen MPEG playback.
- A1200 and PC ethernet connectivity for use in a network environment, if appropriate.
- 2 x buffered IDE channels supporting 4 devices in total
- and ... 64MB of memory on the PC side

EZPC-Tower hardware item	NearestAmiga equivalent	Amiga price
EZ-Tower-Plus	Tower system + k/b	£150
A4 flatbed scanner	Eyetech/UMAX pkg	£180
2x serial + 1 x parallel	PortPlus Z3	£70
32-speed CDROM	32xmech + EZIDE	£60
Expansion slots	Micronik Z3+video	£360
High res graphics card	Picasso IV	£250
Still/motion frame grabber	ProGrab PCMCIA	£130
TV tuner w/ teletext	Paloma IV	£100
16-bit sound card	Prelude	£170
3.2GB hard drive	3.2GB TowerDrive	£140
High density floppy	Micronik	£55
4-device buffered IDE i/f	EZCD-Mk4	£40
Ethernet networking	Eyetech PCMCIA	£90
MPEG full screen p/back	n/a	-
EZPC-Tower - £999.95	Amiga equivalent -	£1795

Although it is impossible to give a 100% like-for-like comparison - largely due to lack of choice of equivalent Amiga cards - the table above shows that implementing the nearest equivalent functionality to the EZPC system using the Zorro3 expansion route costs nearly 80% more. And of course you also gain a fully functional, high performance PC system to use for your less serious computing activities - such as games.

All these devices are available to the Amiga - either directly via the Siamese RTG2.5 system - or via direct access of their associated data files by Amiga programs.

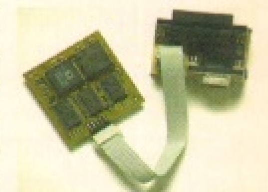
As well as 'off-the-shelf' EZPC systems we can also build systems to order if you require special functionality - such as non-linear editing of video tapes. *Just ring and ask!*

EZVGA PC monitor adapters now available in 6 models to suit all Amigas & pockets

Internal AA chipset and external universal models available with or without flickerfixer.

Why so many models? How do you choose which one is best for you?

Choice 1: Internal or External?



If you have an Amiga with an AA (AGA) chipset then you have the option to use an internal EZVGA adapter. This is an adapter board that plugs over one of the Amiga chips and joins to a second board which is plugged into the 23-pin video port. The main benefit of this adapter is that it takes the digital signals direct from the 'Lisa' chip (rather than by using the analogue output from the external 23-pin connector). This makes the design less complex electronically and results in a lower cost for the finished product. On the other hand fitting (any) internal unit does require a level of manual dexterity and electrical common sense which is not required by the 'plug and play' design of external units. You should also note that the fitting of an internal unit requires the metal shield of the A1200 to be completely removed, itself a far from trivial operation unless you have already done so as part of a 'towering up' operation. If you have an Amiga other than an A1200 or A4000 then you should use an external model.

Choice 2: Scandoubler or flickerfixer?



A scandoubler simply allows normal PAL (or NTSC) non-interlaced 15KHz (TV displayable) screenmodes to be displayed on a standard PC monitor. If you use software that puts the display into these modes automatically - as most games do - then a scandoubler is probably all you need. (This is also all you need if you are using a retargetable graphics system - such as an Amiga graphics card or the Siamese system - for most of your Amiga work, but need to be able to display native 15KHz screen modes occasionally on a PC compatible screen). A flickerfixer on the other hand allows you to display interlaced 15KHz screens - which are normally unusable on a 15KHz monitor or TV. This gives you twice the vertical resolution and a rock-steady picture for serious applications as well as games. The EZVGA-Mk2 scandoubler can be upgraded to the EZVGA-Plus flickerfixer by adding extra memory chips.

Choice 3: EZVGA-SE or EZVGA-Mk2 ?

The 'heart' of any Amiga computer - the thing that makes it tick - is a 28MHz oscillator. This is used to govern all aspects of the Amigas operation - including its video output. (In fact the PAL and NTSC versions of the Amiga require slightly different oscillator frequencies to meet the correct TV standards). Lower cost external VGA adapters - like the EZVGA-SE and most competitive products - use their own oscillator to 'replace' that in the Amiga by using the Amigas genlock circuitry. As well as precluding the use of a genlock itself this method can introduce some incompatibilities with some timing-critical expansion units such as accelerators. It also needs to be manufactured with different oscillators for NTSC and PAL Amigas so is not universally interchangeable. The EZVGA-Mk2 and EZVGA-Plus on the other hand use some advanced electronics to derive an oscillator signal from the Amigas video output. This means that both these units will work with all Amigas and will not interfere with the operation of any other peripherals.

	EZVGA Internal	EZVGA External	EZVGA Mk2/Plus
Pass-through of >16KHz modes	*Yes*	*Yes*	*Yes*
Europe/US Amiga compatible	*Yes*	*Europe*	*Yes*
Upgradable to flickerfixer	*No*	*No*	*Yes*
'Plug & Play' installation	*No*	*Yes*	*Yes*
Uses Amiga oscillator (for compatibility)	*Yes*	*No*	*Yes*
Scandoubler - code: ADPT-VGA-	-INT	-SDSE	-SDBL2
- price:	*£59.95*	*£59.95*	*£74.95*
Flickerfixer - code: ADPT-VGA-	-IFF	-SDSEF	-SDFF
- price:	*£89.95*	*£99.95*	*£119.95*

CDPlus-SE comes out tops in latest review

"Eyetech have come up with a real winner with this new CDROM drive" - Ben Vost, AF



Eyetech's all-new CDPlus-SE has come out top in a comparative review in the July 1998 issue of Amiga Format, winning a 94% rating and an Amiga Format Gold Award.

The unit is available with either 20- or 32- speed, whisper-quiet CDROM mechanisms and comes complete with the Eyetech EZCD-SE 4-device buffered interface, cables and CDROM software written specially for Eyetech by the author of IDEfix. As with all Eyetech-designed products, the CDPlus-SE comes with step-by-step captioned pictorial instructions, including detailed instructions for fitting the EZCD interface with different internal hard drive configurations.

CDPlus-SE 20-speed	*£99.95*
CDPlus-SE 32-speed	*£119.95*
CDPlus-SE audio mixer	*£19.95*
CDPlus MT/DT u/grade	*+£20*
CDPlus-SE Full EZ-Tower upgrade	*+£90*

The CDPlus-SE is also available with an optional audio mixer module for just £19.95 extra. This module fits inside the CDPlus-SE case and mixes the audio output from the Amiga with that from the CDROM mechanism at the correct levels. The composite audio is available on gold-plated phono sockets on the back panel of the CDPlus-SE case.

In addition the same mechanism, cables, interface and software are also available as special bundles with the Eyetech MiniTower, Desktop and full EZ-Tower cases.

Fully functional Siamese 2.1 RTG Software for just £24.95

Do you like the sound of the *EZPC-Tower* System - but would like to try out the Siamese RTG system first? Well for just £24.95 you can now experience the full functionality of the Siamese software - supplied on CDROM - for yourself. (Windows 95 PC and null modem cable required). What's more you can trade in the software against the full 2.5 (ethernet) version of the Siamese software with full credit (less carriage) within 30 days of purchase. The offer also applies if you wish to upgrade to the Siamese ethernet pack or a full *EZPC-Tower* system - see the prices on the right.

The Siamese RTG2.1 software allows you to copy files back and forth between PC and Amiga as well as retargetting Amiga screens on the PC's monitor. V2.1 is a bit too slow for graphics - that needs the 100x speed-up of the RTG 2.5 ethernet system.

Siamese RTG 2.1 s/w	*£24.95*
Siamese RTG 2.5 s/w	*£99.95*
RTG 2.5 & PC/Am ethernet	*£189.95*
2m null modem cab (for 2.1)	*£9.95*
Trade-in value of Siamese 2.1 s/w within 30 days	*£24.95*

August Specials



Fuji DS-7 Digital Camera with mains adapter/nicad recharger

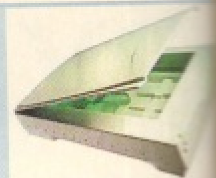
- 640 x 480 x 24bit pixel resolution - ideal for Web graphics - with focus from 9cm to infinity.
- Stores up to 30/60 high/low res pictures in Jpeg format on exchangeable 2MB SmartMedia card.
- Comes with Amiga CamControl software (see right) as well as PC & Mac software & cables
- 1.8" colour LCD display, bidirectional serial interface B&W TV output, time & date stamping.
- Self timer, auto white balance, aperture-priority auto exposure with manual EV adjustment.
- Equivalent to 38mm lens/ISO 100 sensitivity in 35mm camera terms.

Last few at just £299.95 w/mains adapter & CamControl s/w

Award-winning UMAX SCSI flatbed scanner with Amiga PhotoScope software - just £179.95 whilst stocks last!

- 600x 300 dpi optical resolution, single-pass, 24-bit A4 flatbed scanner
- Comes with Photoscope (Amiga) and Mac software. Compatible with all modern SCSI interfaces - including Classic Squirrel (but not *Surf-Squirrel*).
- PCW 'Best Scanner of 1998' Award - July 1998
- Parallel port version for EZPC-Tower also available at lower cost - ring for details

Amiga UMAX scanner & PhotoScope bundle - just £179.95



The Eyetech EZ-Tower System - from just £79.95

Thinking of towering up your A1200? Then you should certainly be considering the unique Eyetech EZ-Tower system:

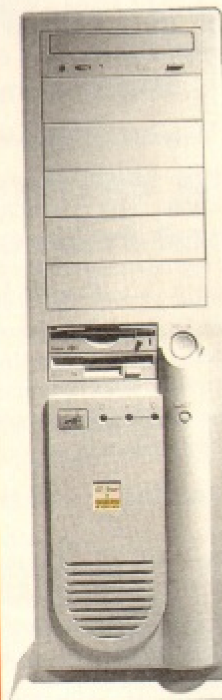
- The easiest way to re-house your A1200 by far
- Expand your system with EZPC or Zorro slots (see p1)
- 250 W PSU with PC and Amiga power connectors
- Available in 4 models to suit different skills and budgets
- The only tower allowing both PC & A1200 in one case.

"This definitely one of the easiest solutions to building your own tower." Amiga Format

"The Eyetech tower offers clever solutions with a Velcro easyfit mentality" Cu Amiga

	Backplate Kit	DIY* EZ-Tower	Full EZ-Tower	EZ-Tower Plus
DF0: face plate, cable	Yes	Yes	Yes	Yes
Custom backpanel w/SCSI,audio KO's	Yes	Yes	Yes	Yes
A1200 power and LED adapters	Yes	Yes	Yes	Yes
CE-approved metal PC case	n/a	Yes	Yes	Yes
No of bays/PSU capacity	n/a	10/250W	10/250W	10/250W
Accessible PCMCIA slot	Yes	Yes	Yes	Yes
DIY assembly instructions	Yes	Yes	n/a	n/a
Installation instructions	Yes	Yes	Yes	Yes
PC board/Siamese compatibility	Yes	Yes	Yes	Yes
Assembled & A1200-ready	No	No	Yes	Yes
EZ-Key adapter & Win95 k/b	Option	Option	Option	Yes
Eyetech installation option	No	No	Yes	Yes
Cost with options as specified	£39.95	£79.95	£99.95	£148.95

* With the DIY *EZ-Tower* you have to remove the PC tower backpanel and some internal shelving and fix the new backpanel in place



The A1200 EZ-Tower

EZ-Key

- Autodetects and remaps Amiga and PC keyboards
- Choice of two keyboard-selectable PC key mappings

"The nicest keyboard adapter we've come across..." Cu Amiga

EZ-Key alone just £39.95
EZ-Key and Win95 k/b bundle £49.95
EZ-Key and A4000 k/b bundle £69.95

Join the Digital Imaging Revolution with Eyetech

Amiga digital imaging software from Andeas Gunther

"An excellent piece of software" Gold Award - Amiga Form

ScanQuix3 & PhotoScope Software *- just £5*

- 24 bit scanning with full range of editing options
- 'Scan-to-disk' option in Jpeg or IFF
- Stand-alone use or integrates with your Art package (AdPro, ArtEffect, PPaint, Photogenics, ImageFX, XiPaint, Pagestream 3, DPaint5) via ARE
- SQ3 - for Epson, HP SCSI & Epson parallel scanners PhotoScope for UMAX 610S & 1210S scanners

CamControl Amiga Digital Camera Software *- just £3*

- Serial connection versions available for most popular models of Kodak, Minolta, Olympus, Casio & Fuji digital cameras.
- Picture transfer, camera control & slideshow options (camera dependant)
- Stand-alone use or integrates with your Art package (AdPro, ArtEffect, PPaint, Photogenics, ImageFX, XiPaint, Pagestream 3, DPaint5) via ARE
- Selectable serial device for use with high-speed interfaces like the PortJn

TurboPrint 6 - the essential partner for you digital imaging work - £38.95

- The most comprehensive, fastest replacement printing system for all WB2.x+ Amigas
- Supports the latest Epson, Canon, HP printers - including the Award-winning Epson Stylus Photo
- Integrates seemlessly with ScanQuix/Photoscope scanning software and CamControl digicam s/w
- Poster printing, image titling, colour correction, print spooling, photo optimisation etc etc all as standard
- Selectable parallel device for use with high-speed interfaces such as the PortPlus (see below).

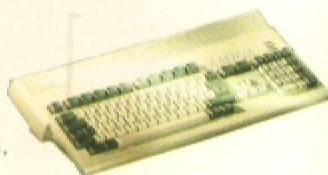
PortPlus - 2 x 460Kbd serial + 1 x 800KB/s parallel & PortJnr - 1 x 460Kbd serial ports for the A1200

PortPlus - £79.95 - *or just £70 if bought with TurboPrint 6*
PortJnr - £39.95 - *or just £30 if bought with CamControl*

Both the PortPlus & PortJnr attach to the (unused) internal A1200 clock port

Amiga 1200 Magic Packs

- Direct to Eyetech from Amiga International Inc.



- Full UK specification with Kickstart 3.1/ Workbench 3.1 disks and manuals, UK psu, mouse, mousemat and TV lead and 2MB graphics memory (in addition to any memory expansion included in the packs below).
- Fantastic software bundle including Wordworth 4SE,Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz
- Hard drive versions come with Scala MM300 preinstalled
- Other options, eg *EZ-Tower Magic Pack* bundles from £348.95 - ring for details

Eyetech *Starter Pack & Starter Pack Plus*

Diskette based system as above - Just £184.95
170MB HD-based system as above - Just £248.95
*Add an '030/33EC accelerator with 8MB for just £59.95** * at time of purchase only

Eyetech *Productivity Pack 3*

170MB HD, '030/33MHz/MMU/FPU/8MB - Just £328.95
*Upgrade to an 040/25MHz/MMU/FPU w/16MB AND an uprated PSU for just £99.95**

Eyetech *MiniTower Pack 3*

1.7GB HD, '040/25MHz/MMU/FPU/16MB, 20-speed CDROM, EZCD-Mk4 4-device buffered i/f & cables, EZIDE s/w, MiniTower case with 230W PSU - Just £598.95
*Upgrade to an '040/40MHz/MMU/FPU w/32MB for just £69.95**

Eyetech *Professional Pack 3*

4.3GB HD, '040/33MHz/MMU/FPU/32MB, 24-speed CDROM, EZCD-Mk4 4-device buffered i/f & cables, EZIDE s/w, EZTower-Plus case with 250W PSU - Just £798.95
*Upgrade to a 160MHz PPC with '040/25MHz/MMU/FPU w/64MB for just £129.95**

New! Amiga SVGA Monitors

- for use with Amiga Zorro & *the new PPC* graphics cards, scandoublers and the *EZPC-Tower* system.

- All monitors come with a 3-yr warranty with at least 1-yr on-site maintenance.
- Special pricing on scandoublers/ flickerfixers bought with monitors from *just £45 extra.*
- Monitor specs are quoted as the highest vertical refresh rate at the maximum resolution. Higher refresh rates (>=75Hz) at lower resolutions are available and give a more visually relaxing display.
- Scandoubler/flickerfixers have resolutions governed by the Amigas AA/AGA chipset and are restricted to a maximum vertical refresh of 73Hz and a maximum usable resolution of 724Hx566V.

14" SVGA 0.28DP,1024Hx768V@60Hz £129.95
15" SVGA 0.28DP,1024Hx768V@60Hz £169.95
17" SVGA 0.28DP,1280Hx1024V@60Hz £299.95
17" SVGA 0.26DP,1600Hx1280V@75Hz £399.95

Apollo Accelerators - from just £44.95!



Turbo 1230LC '030EC/25MHz (5 MIPS) - max 8MB *Just £44.95*
Options: 25/33Mhz FPU +£10.00
MMU (non-EC) version +£10.00
33MHz version (7 MIPS) +£5.00
A600 '030/33MHz/MMU/FPU (7 Mips) to 32MB - £69.95
A1200 '040/25Mhz/MMU/FPU* (19 MIPS) - £128.95
A1200 '040/33Mhz/MMU/FPU* (25 MIPS) - £158.95
A1200 '040/40Mhz/MMU/FPU* (30 MIPS) - £188.95
A1200 '060/50Mhz/MMU/FPU* (39 MIPS) - £268.95
A1200 '060/66Mhz/MMU/FPU* (51 MIPS) - £328.95
* To 32MB. Optional 2nd simm socket (tower only) allows 64MB total

4MB - £9.95 8MB - £19.95
16MB - £29.95 32MB - £49.95
Tip: Buy your memory with the accelerator wherever possible to ensure full compatibility.

New from Eyetech! The EZWriter Amiga CDWriter system - from £249.95

- MakeCD-personal software with SCSI & ATAPI TAO CD-Writer support.
- CD-Writer systems available for A1200 & A4000 Amiga systems - internal or external.
- Extensive CD audio and data writing support.
- Backup 650MB in multiple sessions for £1.00!

MakeCD (ATAPI/SCSI) software - £38.95
10x blank CD disks w/EZWriter - £10.00

CDPlus EZWriter tower system 2/8x + MakeCD s/w - £24
CDPlus-Gold EZWriter system 2/8x + MakeCD s/w - £29
CDPlus-MT/DT EZWriter system 2/8x + MakeCD s/w - £29
With EZCD-SE i/f, 44-way + 40-way cables & CDROM s/w - add £
With EZCD-Mk4 i/f, 44-way + 40-way cables & EZ-IDE s/w - add £

Expand your CD32 - send for details!

SX32Mk2 - £149.95
SX32Pro50 - £269.95
SX32Pro40EC - £199.95

A1200 Hard drives, LS120, Zips

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRI*** ***OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actua They appear to work but overwrite the RDB after 4.3GB into the drive

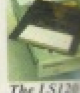
- All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- All drives over 200MB come with over 45 top quality utilities (not shovelware MMe multimedia authoring software preinstalled, configured and ready-to-run

TowerDrives (3.5" 25mm high; all sized in GB):
1.7- £99.95; 2.1GB - £109.95; 3.2GB - £129.95; 4.3GB - £14

LS120 & Zip drives (ATAPI i/f - EZIDE needed):
LS120 (HD floppy/120MB cart) - £79.95; 3x120MB carts £3
Zip drive (Mac emul'n compat) - £79.95; 3x100MB carts £3

2.5" InstantDrives for the A600/A1200/SX32

20MB	An entry-level drive for the SX32/A600.	£29.95
170MB	An entry-level drive for the SX32Pro/A1200	£69.95
720MB	A drive for serious A1200/SX32 Pro users	£109.95
1.4GB	A high performance drive for power users	£149.95
1.8GB	Top-class drive for the A1200/SX32Pro	£179.95



The LS12

The new EZCD-SE economy 4-device buffered interface from Eyetech - Just £24.95

- Suitable for most medium performance A1200 systems.
- Comes with Eyetech ATAPI s/w by the author of IDE*fix*
- Trade up to EZCD-Mk4 i/f at full buying price (less carriage) within 30 days (if required).

EZCD-SE and CDROM software - just £24.95
EZCD-SE, CDROM s/w with 3x40 way and 13cm 44-way cables £34.95
EZCD-Mk4 with full EZ-IDE s/w and 40- & 44-way cables £44.95

The new EZCD-Mk4 High Performance 4-device buffered interface with AIPU from Eyetech - Just £39.95

- High performance active interrupt control circuitry essential for highly expanded and/or accelerated A1200s.
- Comes with Eyetech ATAPI/CDROM software by the author of IDE*fix*

EZCD-Mk4 and CDROM software - just £39.95
EZCD-Mk4, CDROM s/w with 3x40 way and 13cm 44-way cables £49.95
EZCD-Mk4 with full EZ-IDE s/w and 40- & 44-way cables £59.95

EZ-IDE

Amiga IDE, ATAPI, CDROM and removable media enhancement s/w

Only available from Eyetech. Probably the only hard drive/ CDROM/LS120/ZIP/SyQuest software you'll ever need.

- Supports LS120, Zip, Jaz, SyQuest and other IDE/ATAPI removable cartridge drives AUTOMATICALLY. Includes Eyetech's IDE ZipPrep Tools.
- Optimises IDE hard drive performance automatically. Eliminates 'MaxTransfer' nightmares.
- Extensive CDROM support including multidisk changers, direct digital audio transfer, CD32 emulation, high performance filesystem support for Amiga, Mac and PC CDs.
- Ready-to-use as shipped. No sending away to foriegn parts for registration codes as with the 'commercial' versions of IDE-*fix97* and Atapi Pn'P.

EZ-IDE s/w £34.95
If bought with any EZCD i/f, Zip or LS120 drive £16.95
Upgrade from Eyetech CDPlus/ IDEfix s/w* £19.95

**Trade-in & proof of purchase required*

phase5 PowerUp PPC + '040/'060 Accelerator

Without SCSI (not upgradeable)
A1200 160 MHz 603e PPC with '040/25/MMU/FPU -*Only* £24
A1200 160 MHz 603e PPC with '060/50/MMU/FPU -*Only* £44
A1200 240 MHz 603e PPC with '040/25/MMU/FPU - *Only* £35
A1200 240 MHz 603e PPC with '060/50/MMU/FPU - *Only* £59

With factory-fitted onboard Fast-SCSI II interface - add just £50 to the above prices

STOP PRESS! BlizzardVision Permedia 2 PPC graphics card available mid-July! Unbelievable quality and speed - No Zorro slots needed!

4MB card - £168.95 - or just £158.95 with a PP
8MB card - £219.95 - or just £198.95 with a PP

The Eyetech Amiga Parts and Price Index
August 1998 issues

Interfaces and adapters - EZ-Key & DIY tower components

EZKY	Amiga/PC k/b -> A1200 kbd ribbon cable	39.95
EZKY-A4K	A1200 EZKey/6p->5p adptr/A4000 kbd bundle	69.95
EZKY-W95	Amiga/PC k/b->A1200 rib cab+Win95 kbd	49.95
HD-2/3	2.5"/44way -> 3.5"/40w+4w & mtg bracket	11.95
HD-3/5	3.5" Zip/SyQuest/FDD/HD brkt/pl ->5" bay	5.95
KBD-5P6P	Amiga/PC k/b adapter 5p din-F ->6p m/d-M	5.95
KBD-6P5P	Amiga/PC kbd adapter 6p mindin-F ->5pd-M	5.95
KBD-MF	5p DIN M - 5p DIN F k/b ex cable 1.2m	7.95
DF0-FP	Tower faceplate adapter for A1200 int FD	6.95
DF0-TWR	34-34 way cable and faceplate for DF0	12.95

Interfaces and adapters - A1200 ethernet

ETH-BNCT	BNC T-piece 2xM + 1xF	4.95
ETH-TERM	Ethernet BNC coax terminator 50R	4.95
PCM-ETH-C	PCMCIA ethernet card with Amiga/PC drvrs	89.95
PCM-ETH-H	Hydra PCMCIA ethernet card with Amiga drvrs	129.95
ETH-60C	Ethernet coax/BNC-F 60cm for Siamese	9.95
UPT-X60C	Crossed twisted pair/RJ45 for Sisys 60cm	6.95

Interfaces and adapters - Flickerfixers, VGA adapters, monitor leads

PT-VGA-SDBL2	EZ-VGA-Mk2 s/doubler 23F-15F PLL u/gradable	74.95
PT-VGA-SDFF	EZ-VGA-Plus flickerfixer 23F-15F PLL	119.95
PT-VGA-SDUG	SDBL2 to SD-flickerfixer u/g	50.00
PT-VGA-INT	EZ-VGA internal A1200 s/doubler non-upgrad'le	59.95
PT-VGA-INTFF	EZ-VGA- internal A1200 flickerfixer	89.95
PT-VGA-SDSE	EZ-VGA-SE s/doubler 23F-15M Xtal not u/g	59.95
PT-VGA-SDSEF	EZ-VGA-SE flickerfixer 23F-15M Xtal	99.95
PT-VGA-UNBF	Amiga 23 pin(f)-15 pin HD(f) VGA adapter	12.95
VGA-15M23M	VGA VGA 15pHD-M -> 23pD-M Amiga RGB adapter	14.95
PT-VGA-15M9F	Adapter from 15p HD-M VGA to 9pD-F	9.95
PT-VGA-9M15F	Monitor adapter 9p D-F to 15p HD-M	9.95
PT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95
PT-VGA-BUF	Amiga 23pin-F to 15pinHD-F buffered adapter	19.95

Interfaces and adapters - IDE/ATAPI, serial, parallel & floppy drive

12C-DSKPL	DiskPlus FDD D/H/S dens i/f A1200clkport	69.95
12I-EZCD4	Mk4 4-dev buf IDE i/f w/AIPU w/A1200 CD s/w	39.95
12I-EZCD4/C	Mk4 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	49.95
12I-EZCD4/CE	Mk4 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	59.95
12I-EZCDSE	Economy 4-dev buf IDE i/f w/A1200 CD s/w	24.95
12I-EZCDSE/C	Econ 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	34.95
12I-EZCDSE/CE	Econ 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	44.95
4KI-CD4	4-device EIDE i/f for A4000 w/CDROM s/w	19.95
FDD-DF0	Interface for std Sony FDD for DF0 880KB	14.95
SER-PPL	PortPlus 2x 460kb ser + high speed par port	79.95
SER-PTJR	PortJunior - 460KB serial i/f for A1200	39.95

Zorro 2/3 boards and adapters

PT-Z2-A12/1	A1200 ZII adapter with 1 ZII slot	99.95
PT-Z2-A12/7	A1200 ZII adapter w/ 7xZII + 5xISA slots	149.95
PT-Z2-A12/7/UG	A1200 ZII adapter 1->7 slot u/g (p/x)	79.95
Z2-CV/Z2-1	1-slot Z2 +C643D bundle without f/fixer	249.95
PT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95
AB-VGA-10H15M	10p IDC-F header->VGA 15pHD-M for CV64-3D	9.95
Z2-BB	GG2 Zorro2 brigeboard for PC ISA periphs	119.95
ISA-ETH	NE2000 ISA ethernet card BNC for GG2-BB	19.95
ISA-MIO	Multi-I/O ISA card 2xIDE,2xSER,1xP	14.95
Z2-PPL4	PortPlus4 - Zorro 4xSerial + expansn bus	89.95
Z2-PPX	2xS +1xP expansion for INT-Z2-PPL3/4	59.95

Cables & cable adapters - audio & mains

AB-AUD-CD	CDROM invt'd T audio cab .6m + 2xRCA plg	9.95
AB-AUD-MIX	RCA(phono)-M -> RCA-M+RCA-F mix lead 1.8m	6.95
AB-AUD-MJ/PH	3.5mm st minijack->2xphono-M plugs 1.2m	5.95
PT-AUD-RCA	RCA(phono)-M -> 2xRCA-F adapter	2.50
PT-AUD-RCA-G	RCA(phono)-M -> 2xRCA-F gold plated adapt	3.50
AB-IEC-1.5M	AC power cable 13A plug -> IEC skt 1.5m	2.95
AB-IEC-4X13	AC powerstrip 1xIEC-M -> 4x13A-F mains skt	19.95
UG-IEC	Rewirable IEC monitor plg for PSUs/MT/DT	4.95

Cables & cable adapters - Serial, modem, phone, SCSI, printer

AB-SER-EX2M	DB25-M -> DB25-F RS232 extn cab 2m	7.95
AB-SER-EX50C	DB25-M -> DB25-F RS232 extn cab 0.5m	6.95
AB-SER-NUL2M	Null modem cable w/ D9F & D25F at each end	9.95
AB-SER-SSQ	9pDM->9pDF SurfSq EZTwr ser extn cab 50cm	9.95
PT-SER-25F9M	25p-F to 9pM serial RS232 adapter	4.95
PT-SER-25M9F	25p-M to 9pF serial RS232 adapter	4.95
AB-BT-EX10	10m BT extn cable + 2 way phone adapter	9.95
AB-BT-MOD	FCC684/6 to BT4 modem phone lead 1m	5.95
AB-SCS-25/50	SCSI cable DB25-M -> Cent50-M 1m	9.95
AB-SCS-25M/25M	SCSI cable DB25M-DB25M mac type	9.95
AB-SCS-50M/50M	SCSI cable Centr50M->Centr50M 1m	9.95
AB-PAR-FULL	Bidirectional printer cable all pins connected	9.95

Cables & cable adapters - VGA/k/b switchboxes & cables, Scart cables

PT-SW-S/K	Dual monitor & k/b switchbox	19.95
AB-KBD-MM	5p DIN M - 5p DIN M k/b cable 1.2m	7.95
AB-VGA-MF	15p DM-HD - 15p DF-HD VGA ext cable 2m	9.95
AB-VGA-MM	15p DM-HD - 15p DM-HD VGA cable 2m	9.95
PT-SCAR-CMP	Amiga comp video (RCA)+2xAudio to SCART	12.95
PT-SCAR-RGB	Amiga 23p+2xRCA to RGB TV SCART + audio	12.95

Cables - HD, CDROM, floppy, clock port data and A1200 HD power

AB-PD-40F44F	2.5" (44F) to 3.5" (40F) data cab adapt for A1200	9.95
AB-PD-2F	Power splitter floppy drive to hard drive + floppy	9.95
AB-PD-30C	44->40way 3.5" HD data & pwr cabs -A1200	14.95
AB-HD-KIT	A1200 full 3.5" hard drive fitting kit	24.95
AB22-2W-9C	22way-Fx2 A1200 clock port cable 9cm o/a	5.00
AB34-2W-50C	34way-F x2 FDD ribbon cable for tower	9.95
AB40-2W-20C	40 way IDE cable 2 connector 20cm	5.00
AB40-3W-1M	40Way IDE/HD/CD cable 3 contr 1m o/a len	9.95
AB40-3W-60C	40w-F x3 HD/CD/IDE cable 20+40=60cm o/a	9.95
AB40-CUST	Custom cable 3x40way IDE up to 1.5m	19.95
AB40-DDC	A1200 IDE skt adptr 40F-40M with mtgs 15cm	9.95
AB44-2W-13C	44way (2.5" HD) cable 2 cntr, 13cm o/a	9.95
AB44-2W-60C	44way (2.5" HD) cable 2cntr, 60cm o/a	19.95
AB44-3W-12C	44way (2.5" HD) cable 3 cntr, 12cm o/a	12.95
AB44-3W-24C	44way (2.5" HD) 7+17cm,3 cntr,24cm o/a	14.95
AB44-CD-13C	44way (2.5" HD) cable sold with CD/HD 13cm	6.00

Cables - HD, CDROM, floppy power splitters for tower systems

CABPW-1W-1F	Power converter cab HD-M -> FD-F	4.95
CABPW-2W-1H1F	HD/FD pwr splitter HD-M->1xHD-F/1xFD-F	6.95
CABPW-2W-2F	FDD power splitter 4pM->2xFD-F	6.95
CABPW-2W-2H	HD/CD pwr splitter 4p-M ->2x 4p-F 15cm	6.95
CABPW-3W-2H1F	HD/FD pwr splitter HD-M->2xHD-F/1xFD-F	8.95
CABPW-3W-3H	HD power splitter HD-M -> 3xHD-F	8.95
CAB-HD-PWXTN	4p-M -> 4p-F HD/CD power cab ext 0.9m	9.95
CAB-HD-FD/4	23p-M-floppy -> 4p-F HD/CD pwr 0.9m	9.95

CDROM systems including EZ-Tower & MT/DT bundles

• CD-CP-20X-SE	CDPlus-SE system 20 speed with CDROM s/w	99.95
• CD-CP-32X-SE	CDPlus-SE system 32 speed with CDROM s/w	119.95
CD-DT-20X	CDPlus Desktop 20 speed with CDROM s/w	119.95
CD-DT-32X	CDPlus Desktop 32 speed with CDROM s/w	139.95
• CD-FT-20X	CDPlus EZ-Tower 20 speed with CDROM s/w	189.95
CD-FT-32X	CDPlus EZ-Tower 32 speed with CDROM s/w	209.95
CD-MT-20X	CDPlus MiniTower 20 speed with CDROM s/w	119.95
CD-MT-32X	CDPlus MiniTower 32 speed with CDROM s/w	139.95
CD-PL-20X	CDPlus Gold system 20 speed w/ EZIDE s/w	149.95
CD-PL-32X	CDPlus Gold system 32 speed w/ EZIDE s/w	169.95
• ADPT-AUD-CDSE	CDPlus-SE A1200/CD audio mixr/adapter	19.95
ADPT-CDPL-PWR	CDPlus-Gold external power skt + HD pwrcab	9.95

CDWriter systems including EZ-Tower & MT/DT bundles

• CDR-UG-2x8	EZWriter 2/8x w/MakeCD for A4k,Twr	249.95
CDR-PL-2x8	EZWriter-Gold external 2/8x w/MakeCD	299.95
CDR-DT-2x8	EZWriter Desktop 2/8 speed w/MakeCD	299.95
• CDR-MT-2x8	EZWriter MiniTower 2/8 speed w/MakeCD	299.95
CDR-FT-2x8	EZWriter Full EZ-Tower 2/8 speed w/MakeCD	379.90
CDR-CDSE-UG	EZCD-SE+40+44way cabs+CDROMs/w w/CDR	20.00
CDR-CDM4-UG	EZCDMk4+40+44way cabs +EZIDE s/w w/CDR	30.00
CDR-DSK-10	Recordable CD media (WORM) 74 mins	19.95
DVR-MCD-TAO-P	MakeCD TAO (P) Amiga CD rec s/w w/ATAPI	38.95

EZ-Tower systems, MiniTower/Desktop cases & accessories

CASE-FT	Full PC tower, 250W PSU, modable for A1200	49.95
• CASE-FT-1200	Full A1200 Tower 250WPSU,LED adpt,FD cab	99.95
CASE-FT-EXKT	EZ-Tower conversion kit - No PC tower	39.95
CASE-FT-KIT	EZTower kit w/ bkpnl for self conversion	79.95
• CASE-FT-PLUS	Full A1200 EZTWR, EZKEY i/f, Win95 kbd	148.95
CASE-DT	Desktop case with 200W+ psu for HD/CDROM	39.95
CASE-MT	MiniTower case with 200W+ psu for CD/HD	39.95
ADPT-AUD-EZTW	EZTwr audio mixr/adapter for A1200/CDROM	19.95
ADPT-SCSI-EZTW	EZTwr SCSI adpt 30cm 2xCent50F, 1xIDC50F	19.95
CAB-SER-SSQ	9pDM->9pDF SurfSq EZTwr ser extn cab 50cm	9.95

SVGA monitors - require scandoubler &/or f/f to use all Amiga modes

• MON-14-.28	14" SVGA 0.28DP 1024x768@60Hz - 3yrO.S.	129.95
MON-15-.28	15" SVGA 0.28DP 1024x768@60Hz - 3yrO.S.	169.95
MON-17-.28	17" SVGA 0.28DP 1280x1024@60Hz - 3yrO.S.	299.95
• MON-17-.26	17" mon 135MHz, 0.26DP 1600x1280@75Hz	399.95
ADPT-MON-SDSE	Ext s/doubler 23F-15M non-u/g-able w/ monitor	45.00
ADPT-MON-SDBL2	Ext s/doubler 23F-15F upgradable w/ monitor	55.00
ADPT-MON-SDFF	Ext s/doubler with f/fixer 23F-15F w/ monitor	85.00
ADPT-MON-INT	Int EZ-VGA s/doubler non-upgrad'le w/ monitor	45.00

Digital cameras and Amiga digital camera software

• CAM-FUJ-DS7	Fuju DS9 cam, psu, LCD disp, mem crd w/ s/w	299.95
DVR-CAM-CAS	CamControl s/w for Casio QV10/100/300	39.95
DVR-CAM-FUJ	CamControl s/w for Fuji DS5/DS7	39.95
DVR-CAM-KOD	CamControl s/w for Kodak DC20/DC25	39.95
DVR-CAM-MIN	CamControl s/w for Minolta Dimage V	39.95
DVR-CAM-OLY	CamControl s/w for Olympus 420L/820L	39.95
INT-12I-PTJR-SP	PortJnr hi-speed ser i/f pur with CamControl s/w	30.00

Amiga CDROM, CDWriter, IDE/ATAPI, printer, scanner & video s/w

DVR-EZIDE	EIDE/ATAPI HD/CDROM/ZIP/LS120/SyQst drvr	34.95
DVR-EZIDE-CU	P/x upgrade to EZIDE from compet product	19.95
DVR-EZIDE-SP	EIDE/ATAPI enhancer/CDROM s/w bundle pri	16.95
DVR-MKCDP	MakeCD(P,TAO) Amiga CD writing s/w	38.95
DVR-SQ3	ScanQuix3 w/ 1 Amiga scanner driver	59.95
DVR-PHS	PhotoScope UMAX-SCSI Amiga scanner driver	59.95
DVR-ENPR	EnPrint. Amiga printer dvr for pre 03/97 Epsons	9.95
• DVR-TBPR6	TurboPrint 6.x Amiga printer driver English	38.95
ADPT-SQ3-PAR	SQ3 adapter Epson scanner->par prt cable	9.95
• SCN-FBA4-BDL2	UMAX award-w'ing SCSI A4FB scanner w/ s/w	179.95

Hard & floppy drive, CDROM, LS120 & Zip mechanisms & cases

CD20-BARE	Bare 20 speed CDROM mechanism	44.95
CD32-BARE	Bare 32 speed ATAPI CDROM mechanism	59.95
FDD-ITL-1200	Replacement A1200/600 int FDD 880KB	24.95
FDD-ITL-BARE	Bare 1.44/880 FDD for tower (needs i/f)	19.95
FDD-ITL-D/C/I	Twr int 880Kb FDD(Sony/EZDF0/cab bundle)	34.95
FDD-ITL-D/I	Twr intl 880Kb FDD (Sony/EZDF0) No cable	29.95
HD2-21	21MB 2.5" hard drive 90 days warranty	29.95
HD2-170	170MB 2.5" hard drive	69.95
HD2-540	540MB 2.5" Hard Drive	99.95
HD2-720	720MB 2.5" hard drive	109.95
HD2-1.4	1.4GB 2.5" hard drive for Amiga	149.95
HD2-1.8	1.8GB 2.5" Hard Drive	179.95
HD3-1.7	1.7GB 1"x3.5" HD non-InstantDrv for Towr	99.95
HD3-2.1	2.11GB 1"x3.5" non-InstantDrive for twr	109.95
HD3-2.5	2.56GB 1"x3.5" IDE HD TowerDrive - Amiga	119.95
HD3-2.56	2.564GB 3.5" InstantDrive for Amiga	199.95
• HD3-3.2	3.2GB 1"x3.5" IDE drive for tower	129.95
HD3-4.3	4.3GB 1"x3.5" IDE drive for tower	149.95
HD3-LS120	Panasonic LS120 floppy/optical 1.4/120MB	79.95
HD3-LS120-CT1	Single 120 MB cartridge for LS120 drive	14.95
HD3-LS120-CT3	3-pack of 120MB (nominal) LS120 carts	34.95
HD3-ZIP-CT1	Single 100MB (nominal) Zip cartridge	14.95
HD3-ZIP-CT3	3-Pack of 100MB (nominal) Zip cartridges	34.95
HD3-ZIP-IDE	Bare ATAPI/IDE Zip drive internal	79.95
CASE-ZIP	Metal slim case-FDD/IDEZip/SyQuest/LS120	9.95
CASE-HD-ECON	External 3.5" HD case no psu	19.95
CASE-HD-REM	Removeable drive case for 3.5" HD (metal)	24.95

Keyboards, mice, trackballs, PSU's, misc h/w & s/w

FAN-60MM	Cooling fan for A1200 60x60x25mm 5/12v	14.95
FAN-FG-60	Finger guard for 60mm cooling fan	4.95
FAN-LP	Low profile fan 45x45x11mm 12v w/heatink	9.95
KBD-A1000	A1000 keyboard with 6-pin mini-Din cntr	39.95
KBD-A1200	Replacement A1200 k/b w/ribbon cable	24.95
• KBD-A4000	A4000 keyboard with 6-pin mini-DIN plug	34.95
KBD-WIN95	Windows 95 keyboard with 5-pin AT DIN plug	19.95
MOD-EXT-14	Modem AT 14.4dat/14.4 fax+EU psu/tel cab	19.95
MOU-WHI	Amiga mouse - white/cream -with mousemat	6.95
• TKB-AM	Amiga trackball 3-button replaces std mouse	14.95
• PSU-100	100w PSU for Amiga (fit your old lead - inc cntrs)	29.95
PSU-230	230/250w replacement PSU for MT/DT/FT	29.95
PSU-A1200	A1200 23W PSU (original) 90 days warranty	19.95
• SPK-16W	16W PMPO speakers w/ PSU 3.5mm jack	10.95
• SPK-60W-INT	Internal mounting 60W PMPO speakers/amp	24.95
VID-CAM-COL	Colour videoconf camera composite video	129.95
VID-CAM-PSU	PSU for colour video camera	9.95
DISK-880	880KB blank diskettes duplication quality. Pk 50	14.50
NET-REF	Internet reference book	4.95
• VID-CKT	Cocktel Amiga videoconferenc'g s/w by ProDad	39.95

Accelerators - PowerPC with 680x0 co-processor

• ACC-PPC-16-4025	Bliz'd PPC603/160MHz+040/25/FPU/ no SCSI	244.95
• ACC-PPC-16-6050	Bliz'd PPC603/160MHz+060/50/FPU no SCSI	448.95
ACC-PPC-16S-4025	Bliz'd PPC603/160MHz+040/25/FPU/SCSI-2	298.95
ACC-PPC-16S-6050	Bliz'd PPC603/160MHz+060/50/FPU/SCSI-2	528.95
• ACC-PPC-24-4025	Bliz'd PPC603/240MHz+040/25/FPU/ no SCSI	368.95
• ACC-PPC-24-6050	Bliz'd PPC603/240MHz+060/50/FPU no SCSI	598.95
ACC-PPC-24S-4025	Bliz'd PPC603/240MHz+040/25/FPU/SCSI-2	418.95
ACC-PPC-24S-6050	Bliz'rd PPC603/240MHz+060/50/FPU/SCSI-2	648.95

Accelerators - Apollo 680xx

ACC-060-50	Apollo '060 MMU/FPU 50MHz A1200 accel	268.95
• ACC-060-66	Apollo '060 MMU/FPU 66MHz A1200 accel	318.95
ACC-040-25	Apollo '040 MMU/FPU 25MHz A1200 accel	128.95
• ACC-040-33	Apollo '040 MMU/FPU 33MHz A1200 accel	158.95
ACC-040-40	Apollo '040 MMU/FPU 40MHz A1200 accel	188.95
• ACC-30EC-25	Apollo 030/25MHz no MMU/FPU (8MBmax)	44.95
ACC-30EM-25	Apollo 030/25MHz/MMU no FPU (8MBmax)	54.95
ACC-30LC-25	Apollo 030/25MHz/MMU/FPU (8MBmax)	64.95
• ACC-30EC-33	Apollo 030EC/33MHz no MMU/FPU (8MBmax)	49.95
ACC-30EM-33	Apollo 030/33MHz/MMU no FPU (8MBmax)	59.95
ACC-30LC-33	Apollo 030/33MHz/MMU/FPU (8MBmax)	69.95
FPU-EC/M-33	33Mhz PLCC FPU pur'd with Apollo 30EC/30EM	10.00
ACC-630-33	Apollo '030 MMU/FPU 33MHz A600 acc to 32M	69.95
ACC-630-33+4	A600 accel 030/33MHz/MMU/FPU/4MB	79.95
ACC-630-33+8	A600 accel 030/33MHz/MMU/FPU/8MB	89.95
ACC-630-33+16	A600 accel 030/33MHz/MMU/FPU/16MB	99.95
• ACC-630-33+32	A600 accel 030/33MHz/MMU/FPU/32MB (max)	119.95

Memory - Simms, zip ram & FPU's

MEM-16MB-72P	72 pin 16MB 32 bit simm for Amiga	29.95
MEM-32MB-72P	72 pin 32 MB 32 bit simm for Amiga	49.95
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EYETECH

Screen Scene

This month sees the release of two major releases, Foundation and Genetic Species. How long is it since two games of this quality appeared during the same month?


▲ Genetic Species


▲ Foundation


▲ Quake

Genetic Species



■ Price: £29.99 ■ Developers: Vulcan Software/ Marble Eyes
■ Available from: Weird Science ✆ +44 (0)116 2463800

Swap bodies like there's no tommorrow and kill stuff... what more could you want?

I'm running down that damn corridor again. Every time I hear a clank – and that's all the time – I grip the rifle tighter. If one of those scouts is around the corner, I don't know what I'll do – the last three I ran into nearly killed me until I was able to lob that grenade and take off back to relative safety. I've gotta find some first aid fast. There aren't any good candidates left for a takeover – all those petty guards were bothering me and I had to waste them. I sure wish I still had the ammo I blew on them, not to mention their flesh around for a convenient body swap.

But as long as I... what was that? Whirling around a second too late, I catch sight of the security officer I forgot was lurking in that section of hallway. And as the blood pours down the screen, all I can think of is – damn, it's been a long time since I was able to save the Game.

Genus and Species

Comparing Genetic Species to Doom, Quake, or your garden-variety clone thereof does it a disservice. Rather than try to reinvent the "running around shooting things" wheel, the Marble Eyes team have sought to use the concept of a first-person, realistically rendered terrain engine as the core of a Game of investigation, strategy, suspense, *and* shooting things.

That's not to say that you can't have a good time just running around blowing away the bad guys in grand fashion. The weapons fire impressively and the bad guys die prettily. But there's a whole lot more in here to discover.


▲ Look! The Earth is out!

Be afraid...

Since "bright future" science fiction settings don't make for very good shooting action, this Game, like so many others, is set in a "dark future." In the early 2200s, humanity is in virtual enslavement at the hands of a few select megacorporations. Nearly everyone has been fitted with mind-control devices, except for a select few who have evaded the system to form the Counter Force Alliance (CFA) who work to break the stranglehold of the corporations. The CFA has been developing a technology called the "Bioshifter" to take advantage of those mind-control devices by using the shifter to take complete control of corporate employees. Some very strange things have been happening on a large asteroid, including huge military

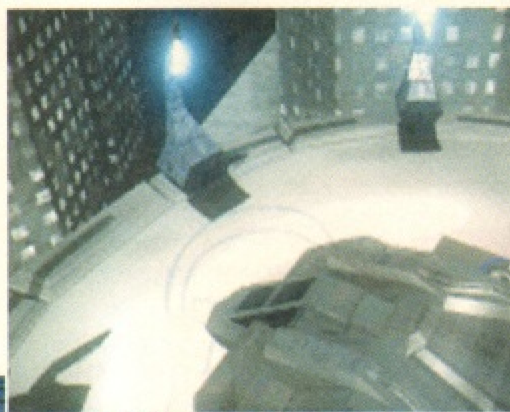
buildups and the unexplained apparent self-destruction of strategic bases. So the CFA has decided to activate one of the Bioshifters in the remaining base.

Initially, your mission is simply to explore and try to gather clues as to what might be going on, and unsurprisingly the base's security will do everything in their power to eliminate the intruder (you). But, through cunning and superior firepower, you have to fight your way through levels too numerous to count, gathering keys, clues, and even more weaponry to expose what eventually turns out to be an elaborate conspiracy and stop it before it can do any more damage.

Saving humanity the hard way

There's no way to dither around this issue – the 3D engine is just awesome. Once you open the first door and are greeted by the first row of flashing running lights, something I've never seen done nearly as well in any Game of this type, period. You very quickly get the feel that you are there, running through the subterranean corridors of some cold distant atmosphere. The baddies swarm around you so fast you hardly notice they have a tendency to "glide" in a manner vaguely reminiscent of Breathless, and the weaponry fire is so crisp and, well, satisfying that you only care how they die, not how they walk. A nice touch is that weapons do not always fire straight forward into the center of the screen (because most human beings have trouble carrying guns squarely in the middle of their bodies), but a pinpoint gun sight helps you call your shot.

Genetic Species is full of unique little wrinkles. The artists really avoided "blocky computer graphics syndrome" in spades – there are a few things you can get "too close to", usually very skinny objects like rotting corpses from mishap experiments, but it's far better than most Games, where merely approaching a wall turns it into a big visual pizza. The element of surprise is used to great effect – there will be times when you wonder where all those guards could have poured out from, only to realize that you should have reacted to the warning signs much earlier. Doors open and close around you – somewhere in the distance, but still audible – and will keep you guessing as to who might be coming, and when. And then there's the "Portable Probe Device", or "Paradroid Meets Quake."



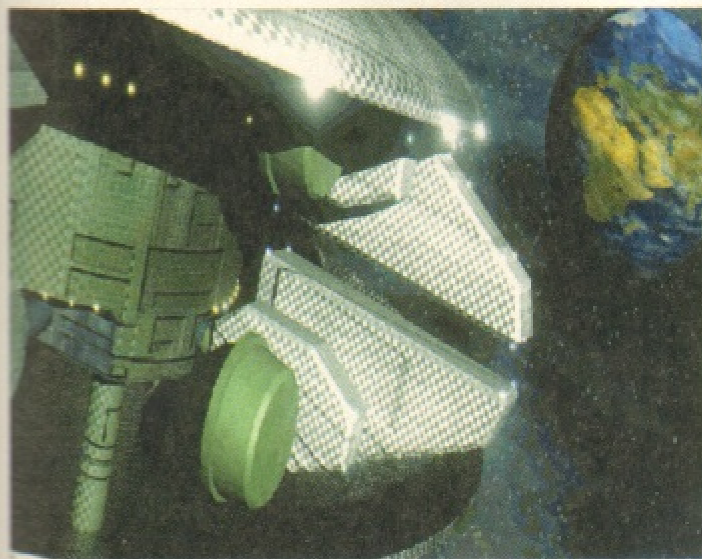
◀ The CFA comes in for a landing at the Centex base.



▲ Mad scientists, at their mad work

The PPD serves two purposes. For starters, you can launch it (presumably out of the head of the creature you're currently inhabiting, which would certainly look interesting) to shoot into the corridors ahead to investigate. It travels forward extremely fast and with a wild color scheme (very cinematic), and will travel for a few seconds or until it hits a wall. The second use of the PPD is to take over an enemy. In theory, any enemy you meet can be shanghaied into your cause, but some are more vulnerable to takeover than others, and stunning them first (either with a stun-specific weapon, or sometimes you get lucky by whacking them with a few probes) helps as well.

When you successfully take over a creature, the one you had been inhabiting dies – sometimes, it seemed, taking all of his weaponry and



◀ "Don't laugh, it's paid for."



▲ I want a bigger gun, I wanna blow things up!

Tools of the trade

All good things must come to an end, and here are the tools Genetic Species gives you to get them there faster. A game like this needs a nice range of decent weaponry, and genetic Species scores a definite A+ in that area. There are weapons by the bucketload, and they're complete with some spectacular lighting effects that give a real sense of just how powerful your latest discovery is. Get hacking, shooting and zapping!

◀ .44 Pistol

Silenced Pistol ▶

◀ Industrial Dril

Fire Axe ▶

◀ Tazer

Flechette ▶

◀ Flame-thrower

Laser mine ▶

◀ Hand grenade

Minigun ▶

◀ Assault Rifle

Rocket launcher ▶

◀ Mine

Plasma gun ▶

ammo into the abyss as well, which is rather unfortunate, and difficult to justify from a design point of view. But the takeovers are sometimes necessary, or at least extremely helpful – certain types of characters (particularly engineers and security officers) have



▲ Rocket launchers are not always good in close quarters.

access to rooms others simply cannot reach, and the physical stature of still other foes makes them attractive to get into small, cramped places. Because of this feature, it's sometimes in your best interest not to simply blow away everyone you meet.

The exploration of the four bases in Genetic Species is probably unlike you've ever experienced before in a 3D shooter. This is nothing like a level of Alien Breed 3D or Doom or Quake – kill a dozen enemies, find a key, kill another dozen enemies, search for secret rooms, exit the level, do it all over again in another setting. You will have to visit and re-visit rooms, backtrack to pick up weapons you had to drop in order to carry other needed items, go back to make sure there wasn't a hidden switch you missed, take countless elevators up and down, all while minding a rather frugal ammo supply and, of course, your sanity. Add to that the very refreshing rudimentary AI of the enemies – they run away from you when they're dying, call for help, and even try to track you down if you get away from them or vice versa.

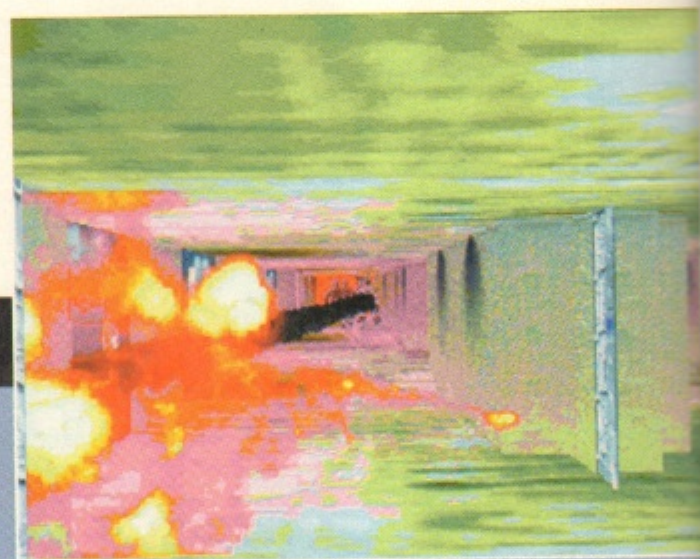
To get past all this madness, the key you need might be two or three full floors away, and many elevators in the Game have only one destination. Fortunately, in another interesting wrinkle, you always have access to a generally complete



▲ As a Face Hugger, you can spit streams of acid for yards.

floorplan in every level, which you can overlay on the screen at any time. Certain things like disused corridors or secret hallways and chambers don't appear on the map, though, so it is by no means exhaustive. The map is available even when you first enter a level – so you can check out the entire floorplan

▼ The trippy probe-cam.



Know your enemies

Genetic Species boasts one of the most expansive and varied collection of opponents ever assembled for your destroying pleasure.



Engineer: No real physical threat, but be careful trying to take them over – they're so frail that if you don't stun them properly, the probe will kill them.



Scientist: Pencil-necked geeks with peashooters. Not a problem.



Security Soldier: Your average grunt. Don't waste the good ammo on him, just some .44 rounds will suffice.



Space Pilot: Move like a butterfly, sting like a bee around this one. They're slow moving but still dangerous.



Stormtrooper: Action Man he isn't, but he is a well-trained killing machine. Worth trying to take over if you're in a tough situation.



Gel Man: The Danish promotional materials refer to him in the amusing, if not completely intentional, terms of "an abdominal creature." But he's ugly, and that which is ugly deserves to die.



Face Hugger: Looks like a regular cyborg spider but, it seems like it takes forever to kill all of them.



Mantis: A good strafe of rifle rounds will do the job.



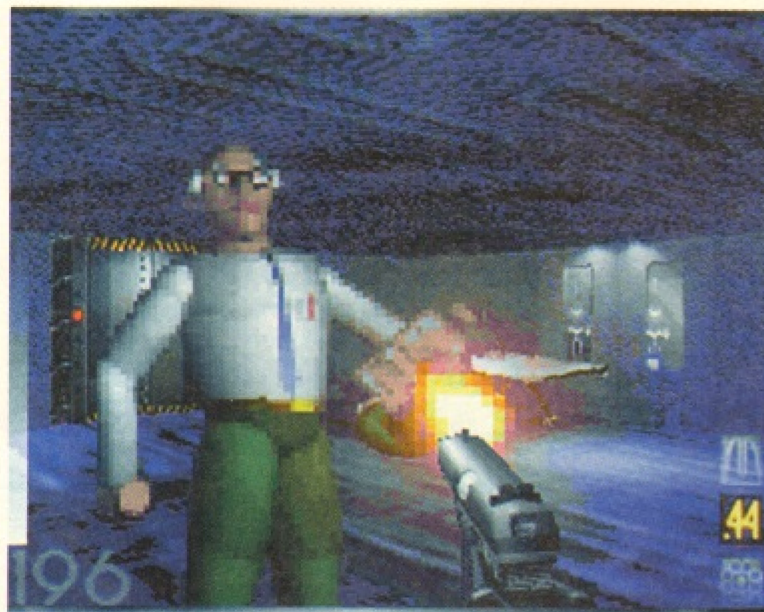
Chameleon Soldier: "Predator"-like opponents with lightning speed and bad attitudes. The invisibility effect is impressive, and it's even more so when a gang of three of them buzz around you shooting you to death.



Battle Cyborg: Almost omnipresent in the later stages of the Game, these guys can make crispy meat out of you in very short order.

before you make a single step. It's a little disappointing that the secrets you do manage to find still don't appear on the map, however.

Genetic Species makes very good use of a range of Amiga hardware. There is a small set of preprogrammed resolutions and the ability to use most graphics cards, and sound is provided through AHI. On a high end machine, 320x250 (the top resolution) looks just wonderful, far better than you would expect given the fact that is considered "low res" these days, even with double buffering and full audio enabled. Even if you're without RTG capabilities, the Game moves along at a very good clip for AGA users. And the sound is absolutely fantastic – the CD tracks of mood music are very appropriate, the constant spooky clanks and grinds keep you on edge, and the sound effects get gradually more sinister and "icky" as the Game wears on.



▲ Work's been tough since the new dress code.

Evolution of the species

Nobody's perfect. Genetic Species has some design flaws – some niggling, some notable. I had a serious problem with the Game's saved Game and options screen abilities. You can only save your Game when you discover the exceedingly rare "save Game powerup" – you can leave it there or lug it around, occupying one of your three precious inventory slots until you're ready to use it, but once used, it's gone until you find the next one. In a Game as huge and expansive as this one, where killing the wrong guy can suddenly make your mission much more difficult, maybe even impossible, frequent saves would certainly have been welcome.

So would an easily accessible options screen, to change screen size, brightness, or to reload a saved game. But to do these things, you have to locate a computer terminal. Sometimes, they're in great supply, other times you can literally be locked away from one and have to use a special keyboard combination to quit – there's nothing else to be done! Just hitting the escape key to pull up the menu is all that was required, but they really missed this one. Finally, I have a problem with the Bioshifter/probe/taking people over premise. If, as the Game alleges, we're taking over the bad guys, who presumably are friends with the other bad guys, why do the other bad guys instantly recognize us as "good guys" and begin shooting? I would certainly understand if they saw or heard us shooting at people or things, or saw us meddling with doors we shouldn't be near, but no, despite taking over the body of an enemy commander we apparently still have a sign tatooed on our foreheads reading "I am an intruder." I really wanted to get into the storyline of the Game but I found this a very glaring flaw. That, and I'm really sick of plotlines which rely so heavily on Alien.

The online documentation alludes to an upcoming level-building CD, but no word on the Vulcan site for a release date. Without that product a reality, Genetic Species remains a very impressive standalone Game. And, despite the difficulty in comparing Quake to GS, the comparison will ultimately have to be made, and it is for this reason that GS scores a scant point less than Quake. Quake proper is the less engaging Game, but by buying into it, you buy into literally hundreds of other Games. GS is a thrill ride and a half but when it's over, until that level creator comes out and people learn its tricks, it's over. ■

Jason Compton



▲ Be very, very careful when shooting fuel tanks.

▼ Don't try this at home, kids!





Mechanoid: One of the robotic menaces of the Game, very difficult to kill, even more difficult to make good use of if you take one over – they don't have good hands, you see.



Wolfhead: GS's tribute to Robotech and Robocop. Brutally lethal. Throw grenades and run.



Zombie: Disgusting and very hard to kill. Put them out of their misery with a flamethrower or energy rifle.



▲ In case that doesn't get their attention, split skulls.

GENETIC SPECIES

CPU	020 min
Number of disks	CDonly
RAM	8Mb
Hard disk installable	N/A
Graphics	97%
Sound	90%
Lastability	80%
Playability	93%

OVERALL

A tremendous effort – a great synthesis of adventure, suspense, and 3D blasting.

94%

Foundation



■ Price: £29.99 ■ Developer: Paul Burkey/Sadeness Software ■ Available from: Weird Science
✆+44(0)116 246 3800 www.sadeness.demon.co.uk

Second in this months pairing of big releases is the long awaited Foundation. A game of impressive depth... but is it engrossing enough to pull you in?

At last Paul Burkey's Magnum Opus is with us. Much cited as proof that the "bedroom programmer" is not an extinct species yet. Foundation started a couple of years ago as an ambitious project by a shareware author. Drawing inspiration from God games of all types, with a spicy dash of real time war game, Foundation has grown into a game of awesome proportions and rich detail. Amazingly enough, it has come out at last and thumbed its nose heartily at those fools who believed the lad Burkey would never finish his epic.

Foundation is a "God" game, a genre inspired by the seminal Populous by Bullfrog. The player controls the development of a community from a position of divine power, staring down on the isometric world below and bestowing destruction or development with a few clicks of the mousebutton. The genre has developed a lot since the early days, greater depth being the current trend. Foundation certainly follows this trend with an enormous range of features; the scope of this game developed continuously as the game itself was developed, a vicious circle which might have lead the game to grow in ever increasing cycles of complexity until it became more realistic than the real world and took up dozens of CDs, if someone hadn't finally yelled "stop!".

Playing God

The design of the in-game graphics uses the traditional isometric view to display the main playing area. This occupies the largest part of the screen. It is flanked by the main control panel and the overview map of the island, and a list of all available resources in your Headquarters runs along the bottom of the screen. You move about the playing area by dragging the mouse to the edge of the screen in the direction you want or by clicking to a new location on the mini-map. When you start, all but the immediate area is in darkness. Your surroundings are only revealed by exploration. You control a population of peasant workers, magicians, soldiers and scientists, and there is also a healthy supply of maidens to er... aid in leveraging the expansion of your population base.

Building projects require resources to be collected. The resources on the surface are finite, but can be replenished with a bit of magic when you discover the secret. The range of buildings is huge, and grows throughout the game as your scientists discover more and bring the "tech level" of your society up. Of course that is dependent on them surviving to a ripe old age and keeping them sufficiently comfortable that they can spend time in their workshops, tinkering with their tools. There are natural resources such as ore, gold, coal and wood to manage, there's food to gather, and of course enemies to barney with.





▲ It starts so simply and serenely...

Game play is continuous and does not stop for you to check your statistics or give your orders. The men scuttle about the landscape and between the buildings, working and carrying, much as they do in The Settlers. However individuals and whole groups can be selected with the left mouse button, and ordered to a different location or to occupy a different building with a simple click of the right mouse button. The building a peasant inhabits indicates the type of role he is expected to fulfil in the society you are guiding. Typically for Foundation, there's a little more to it than that.

A big advantage of Foundation over all of its predecessors is the added complexity of

Architects anonymous

Here's just a small selection of the buildings you can construct:


Headquarters: No, not hindquarters, headquarters! The heart of your civilisation.


Mine: This building provides stone, ore, coal and oil.


Refinery: The building in which ore is converted into gold, probably your most widely used resource, and steel.


Brewery: You gotta have some kind of social lubricant, right?


Foresters Hut: This is where your lumberjacks go to chop down trees, wear high-heels etc.


Armoury: Here your steel can be converted into plate-mail cod-pieces and all of the other equipment necessary to make a man into a soldier.


Crematorium: Turns corpses into magic and saves the neighbourhood from smeling bad.


Pump house: I thought my men came here to engage in the old five-knuckle shuffle until I destroyed it in a fit of spite and we ran out of water.



the resource management. As well as prioritising the production and transport of the resources, the supply of resources to, and output of resources from, each building can be adjusted to meet your needs. For example, if you are short of gold, you can set your mine to produce ore only and tell your refinery to stop producing steel. There is also a stock market where goods can be traded in times of lack or surplus. Sid Meier's masterpiece Colonization attempted a similar degree of complexity in resource management, but Foundation manages to be both less cumbersome and more detailed.



◀ Beachfront property to let – Foundation's equivalent of Malibu.

Lookin' for trouble?

The combat system in Foundation is pretty straightforward. Fights can easily be started by soldier and peasant alike by right clicking on your chosen target. As well as getting your soldiers to attack enemy buildings, you can even get your peasants to carry out sneak raids to steal the fruits of your opponent's labour, a tactic much favoured by your computer foes.

However the soldiers could really do with some tuition on intercepting advancing enemies. You can set a few guards around your territory ready to intercept invading forces, but without a bit of steady guidance it can all go horribly wrong, and the enemy forces can nip off with your gold while your guards clumsily chase them in a kind of slow motion arthritic keystone cops sequence.

A nice little bonus concept in Foundation is magic. You have wizards who use a resource called mana, which you develop by burning the corpses of your dead in a cemetary. They can use this mana to cast a range of spells, which like the tech levels, improve and expand with development. Mostly, you will use your wizard to build buildings – who needs a JCB when you've got a bloke in a pointy hat and a dress?

By constructing the correct combination of buildings, keeping a close eye on your resources and ensuring your minions are well fed, well watered and happy, you should be able to build up enough strength to complete your mission. You can quickly learn to order your mostly loyal populace about.

However it is easy to get the balance of buildings wrong, at which point your population can start to go into a dramatic spiral of decline from which it is frustratingly difficult to escape. Another thing to watch out for is when your people are getting bored and depressed; they start to tamper with the production levels in the buildings. In such instances I find that destroying the building and all those within it is the most satisfying solution, but not to be recommended if you are running low on people or resources.



▲ Lava world – don't go for a dip on this beach.

Control freak!

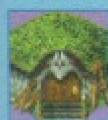
The control panel gives you access to a host of statistics with which you can monitor the progress in the minutest detail. However you have to keep an eye on the main playing area as potentially important messages can appear at the top of the screen at any time.

A tiny icon by the side of the mini-map allows you to zoom to the subject of the message in an instant, so you shouldn't miss too much. Alas your cause is not helped by crammed design, with all the statisticsl in too small a space. With a nice large monitor, the icons are quite clear, but a smaller monitor or worse a TV can leave them rather fuzzy. The inevitable consequence of having so many things to control is that you need a lot of buttons, and it would be nice if you could, for instance, leave pop up control windows scattered around the screen, or have some icon submenus that kept the overall icon count down.

Other than that, the presentation of the game is very professional and very polished. The game can be installed onto your hard drive in totality or in pieces, depending on the amount of memory you have available. Obviously the more you install, the less disk accessing will be required during game play, and the faster it will run. There are also a number of options to select when you activate the FoundationPrefs icon before loading



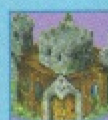
Farmhouse: This game is set in a time when this was more than a garage for Range Rovers, the farm is actually the source of all of your wheat, root vegetables and fruits.



Peasant hut: Build one of these and you see why your proud populace don't need to resort to the old five-knuckle shuffle. Watch as all of your maidens rush from the headquarters to find a bit of quality time with their chosen gentleman.



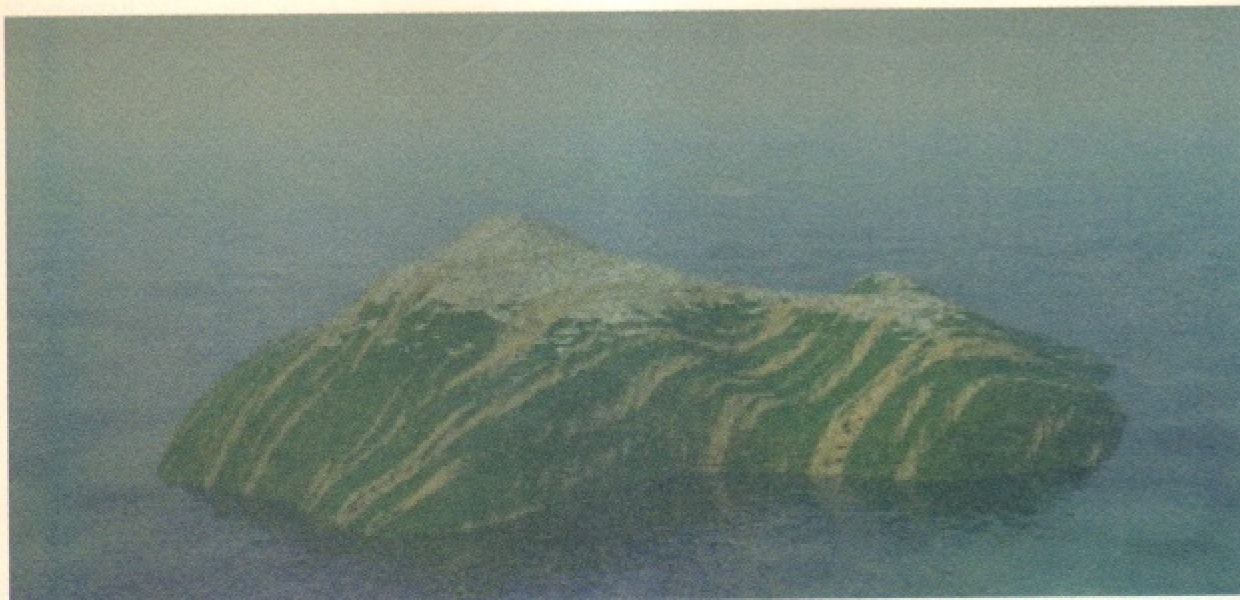
Laboratory: Build a laboratory and your boffins will think up ingenious labour saving devices and new buildings.



Barracks: In exchange for a piece of gold, you can train your peasants to become wizards, intellectuals and soldiers.

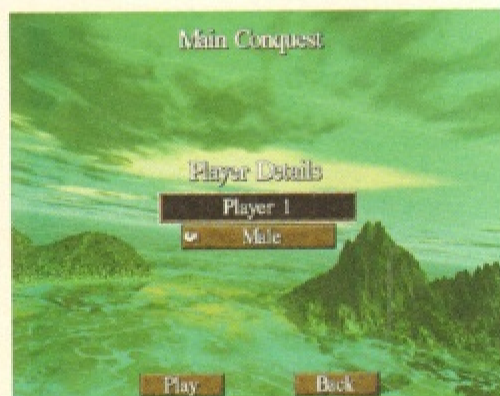
Feature list

We started to compile a list of features but ran out of room for the review. The wealth of clever little features in Foundation is amazing: distant sound effects, AHI support, mugshots of real Amiga users, complete lifecycles for peasants, the of alchohol and nice fire effects... you could go on forever. It is a testament to the imagination not only of Mr. Burkey himself, but of the hundreds of Amiga users on the Internet who came up with ideas and suggestions for the game. Pat yourselves on the back!



▲ Lovely rendered graphics of your next contest. One day all islands will be built this way.

the game, such as screen and graphics sizes, and what screenmodes to use. Foundation runs in AGA or on graphics cards, although the hefty chip RAM demands really does limit AGA screens to the smaller screenmodes. It's not that there is any problem with the smaller screen modes, it's just that playing in 800 by 600 pixels is nicer. Never mind, you'll just have to get yourself a graphics card!



When you load up the game and sit through the opening sequence (nice, but too oddly and uncomfortably slow on AGA) you get to the main menu screen, which sets out the options clearly over an impressively red sun-set. The lovely rendered images of landscapes and seascapes which appear on all the menu screens and between levels are an attractive feature.

There are two types of game to choose from, the conquest game and the custom game. If you choose the conquest game, you are faced with the first of the 40 missions included on the CD. You start the game with a Headquarters, a foresters hut and a pump house. From these humble beginnings you must build up enough resources to progress to the next level, each mission introducing more complex targets to achieve and more aspects of the game.

In a custom game you get to create a game to suit your mood. You can pit your wits with between one and three computer opponents, and there are a selection of different objectives to choose from, such as controlling 80% of the island, destroying all enemies and torching all enemy buildings. Different terrain types can be selected which change not just the colour of the graphics, but also impact on the game play. For example if you chose to play on a lava island, not only are you surrounded by a fiery sea, but the harsh conditions seem to cause your people to suffer serious health problems.

Animation?

The lovely polish of the front end is not entirely carried through to the game. The landscape is excellent, but some of the unit detail needs work. The graphics representing the buildings look nice, but lack animation to illustrate the work going on in the building. Not only would this bring more vitality to the game but it would most importantly indicate when a building has reached the end of its useful life, or has become unoccupied in times of labour shortage. As it stands, you have to be careful to check the status of your structures regularly to catch problems. The characters look good in a Sensible Software/Mega-lo-mania sort of way but the animation is a little stiff and could do with work. Overall, however, it is a step above what we are used to on the Amiga for this genre, and it's really only the high expectations that it trips up on. There are some nice touches to the game, like the unique identities of individual peasants, each having a 'tasteful' photo and name to aid abuse hurling, and the way the ghosts of dead peasants rise to the top of the screen.



◀ Check out that selected character – that goatee, those glasses... looks just like our rival's Mr Vost!

Update frenzy!

One month on from the initial release and Paul Burkey has already released nine update patches. The first run of the CD has sold out, and the new pressing will have all these fixes and more, including an improved manual. Features which are promised to come in this and in later updates planned over the coming months are:

- **Better character graphics**
- **Faster graphics card support**
- **TCP/IP support for network play**
- **More language files**
- **Mission expansion packs**
- **Landscape editor**
- **Many gameplay tweaks**
- **Split screen mode (yes!)**
- **Whatever else people suggest!**

The in-game sounds are good – simple, unexcessive, amusing and not too irritating. There are some nice touches such as when your minions respond verbally to your commands, and you can load your own samples for further Worms – like fun. There's even a few new agey CD audio tracks to keep your ears from getting bored – a bit wallpaperish, but well suited to the task and well done.

The biggest flaw in this mainly excellent game is the manual. It has a nicely presented HTML guide, but rather lacking in detail. Ideally, there ought to be a comprehensive manual detailing all the buildings and units precisely, listing what is needed to construct them and what they can produce. An online guide along the lines of the Civilopedia in Civilization would have been a welcome bonus, but as it is, the game can be a little hard to get into.

It can be challenging to get into this game, but even early on it is evident that this epic creation has enough potential to keep you interested for many a long hour. Complex, intriguing and ultimately satisfying, the sheer depth and involvement of this game outweighed the rough edges and forced through to a screenstar. Playability suffers a lot because of the limited instructions and cluttered controls, but if the updates cover the issues raised, Foundation could ultimately earn several more points. ■

Andrew Korn & Jonathan Brooker

FOUNDATION

Processor.........68020	Graphics.........84%
Number of disks.......CD only	Sound.........87%
RAM.........2Mb	Lastability.........95%
Hard disk installable ...Yes	Playability.........75%

OVERALL

Superstar despite the flaws - and it's still getting better.

90%

Tips Central



A few more lost souls are rescued from the deep, dark pit of despair by our resident adventure guru Sjur Mathisen.

Sixth Sense Investigations

Not long ago I bought Sixth Sense Investigations. It didn't let me down, but either it's harder than earlier adventures, or maybe I'm letting myself down.

I had no problem with Monkey Island and the other greats, but now I'm stuck! How do I get the big cheese off the man in the cheese factory? How can I get the thing on the trucks forklift in the toy factory? And how do I catch the mouse in my office?

Gene Reeves, Essex

In this game as in every adventure game you have to explore every inch of the screen with your pointer to find all the objects. I had problems finding a couple myself so I know how you feel. To get rid of the cheese open the cupboard door closest to you in the cheese factory and grab the metal bar.

Then just sharpen it using the stones on the table in the other end of the room, and chop away. The forklift truck in the toy factory needs power to work. Next to the car you should buy at the garage there's a car battery. It's a bit dirty so try finding a towel you can use to wipe it clean. Then grab it and insert it into the engine on the back of the fork-lift truck.

Finally, to catch the mouse you need some cheese crumbs; you should look in one of the buildings. Guess which. Then you just need the 2 items you'll find in the cupboard in your office. Happy hunting!

Sixth Sense Investigations

In Sixth Sense Investigations I can't find anyone that can put the armour on Ben. Please help!

Michael Turner, Ross on Wye

Congratulations on making it past where the previous guy was stuck first of all. Now the answer of your problems. You have to buy the empty bucket in the pawn shop. Fill it with oil from the device next to the teleporter and the robot guard. Then swap the bucket with the bottle of oil in the bar (the guy at the table is too drunk to notice).

Give the oil to the "oilaholic" outside and he'll give you a map. Next give the cabdriver a zwatch watch and he'll take you anywhere whenever you hand him the map. Ask him to take you to the doctor and you'll get all the help you need.


Simon the Sorcerer

Simon the Sorcerer

In Simon the Sorcerer I can't get the beer barrel in the pub, but I read somewhere I need, it so please help me. I was told it had something to do with the beehive, but can't figure out what?

Ben Aitken, Hastings

Deja Vu!
I got both these questions from someone the first month I did this helpline, but that's 9 issues ago so I guess I can repeat it just for you.

Those two things are connected. You need to use the wax from the beehive on the barrel to plug it. Then the barman will think it's empty and carry it outside.

Now, how to get the wax. You should head for the castle. Use the clapper, you might have found at the blacksmith's, with the bell and a long piece of hair will fall down. Climb up and into the window. Talk to the girl, and kiss her. Whoops! Take the repulser back to the chocolate truffle house and let the "it" have a little taste of the door. Once inside, take the hat and the smokebox. Use the smokebox on the beehive and there you go. Back where we started, in the bar, ask for a drink to keep the barman occupied while you do your magic.

This worked 9 months ago, so I guess that it still does.

Flight of the Amazon Queen

I've been stuck on the Flight of the Amazon Queen for quite a while now as I can't find the ingredients for the rash cure.
Please help.

Sandy Walker, Sutherland

Tons of stuff has to be done before you get your hands on it. My guess is that you already have gotten the Vacuum cleaner from Bob, so we'll start off standing next to Bud. Talk to the guy next to him until he gives you the comic. Go back to crash site and give the comic to Sparky.

Go back to Bud. Then take the right path, and then turn east. Talk to the gorilla and tell him he doesn't exist. Go South and talk to Marry-Lou. Ask for the dictionary and swap it for the file. Talk to the others about sloths. Use your sharp knife on the banana. Then give to the monkey with the Coco-nut. Go north and through the hollow log. North again and use the Vacuum cleaner on the nice little wasps. Pick up the flower before you go east. Use the button. Talk to the guy with the puppets. Tell him you like the puppet with the stick. Apologise to Faye. Go West and to the pinnacle. Head for trader Bob's and talk to the chief. Enter the store and give the flower to trader Bob. Get the net before you once again return to the crash site. Use the net to grab the perfume. Back to trader Bob's where you give the perfume to Naomi.

Now it's of to Floda Camp to pick another flower. Go back into Jungle and north. Use the flower and then the scissors on the Sloth. Go to trader Bob's and talk to the witch doctor about the Rash Cure. Use the knife on your coco-nut. Then hand over the 3 ingredients to the witch doctor. They are: the coco-nut, the sloth hair, and the vacuum cleaner.

Now you can make Bud happy, and hopefully I've made you happy. ■
Sjur Mathisen

Quake Special



Quake has more built-in cheats than any other game ever! Try out this little lot then...



Quake is absolutely crammed full of cheat codes left over from the original test mode. To activate these, simply go into the console mode while playing a level (by pressing the "~" key), type in as many of the cheats as you want to use and return to the game:

GOD – Unlimited power
IMPULSE 9 – Gives you all the weapons, even the thunderbolt which can't be found anywhere in else in the game.

IMPULSE 255 – Gives you quad damage.

IMPULSE 11 – Gives you a Rune. You must exit and go back in the console each time you use it.

MAPE1M? – You guessed it, this takes you to that map. Replace the ? with a value between 1-8.

NOCLIP – No clipping, pass through walls.

FLY – Fly around using the "d" and "c" keys to move straight up or down.

NOTARGET – Monsters won't attack you unless you bug them.

R_FULLBRIGHT 1 – Suck the shadows right out of the game. An interesting code.

NOTARGET – Makes it so the enemy can't see you, use with code below.

R_DRAWVIEWMODEL 0 – Makes you invisible.

GIVE – Very useful, can have many parameters. For example for shells type "GIVE" then the line below "Give S#". Make sure you input a value for the #.

- GIVE # – Gives you weapon #.
- S # – Gives you # Shells.
- N # – Gives you # Nails.
- R # – Gives you # Rockets.
- C # – Gives you # Cells.
- H # – Gives you Health #.

The grappling hook

On the team play levels there is usually something called a grappling hook that you can use to scale walls and go just about anywhere. To get this hook, go to the console and type "impulse 22", then press Enter. When you exit the console you should have the axe selected. To use this hook you just hold down the CTRL key and you'll fire off a purple blob (the hook) then you'll be pulled across to the wall, ceiling or floor that the hook hit.



Level status

If you're wondering how you're doing on a particular level, you can hit the Tab key and you'll be told how many secrets you've found, how many monsters you've killed, and other useful info about your progress.



The nightmare level

If you've beaten Quake on all the difficulty levels, you might want to try the Nightmare difficulty level, which can't be found via conventional measures. To get there, pick any Skill Hall, and on the Introduction level, go up the stairs leading to the fourth episode, The Elder Worlds. Notice that it says, "Your worst nightmares come true here"? Walk into the water, but not too fast. While you slowly sink, move all the way backward as far as you can, and when you pop out of the water again. You'll land on a wooden beam. Walk to your left where you'll find a passage leading to a Nightmare skill teleporter. No matter what weapon you're carrying, you can increase your ammo to no known limit by continuing to pick up that weapon whenever you see it. Note: This works only with the actual weapons themselves, not the ammo boxes which will max out as normal if picked up.



The death match

Playing the death match is a totally different tactical challenge compared to the single player game. These tips should help you cope, especially if you've found your way onto one of the multitude of Quake servers connected to the Net:

No skins

Getting tired of all those campers hiding in the shadow's with their all black skins? Well you can out smart them by using the "no skins" option in your GameSpy options. To you they will appear in base skins, but to them, you will appear in whatever skin you have selected.

Sniping
Use the keypad 'open bracket' key to zoom in and out on targets. This is especially good for sniping.

Suicide
With the Thunderbolt, wait until there is more than one enemy in the water. Quickly jump into the water and discharge the Thunderbolt. Everyone will instantly die. As long as there is more than one enemy in the water, you will get at least one positive frag.



Charging
Use charging as a last resort. When out of ammo and facing an opponent with a Rocket Launcher, charge him in hope than when he discharges a rocket you will be close enough that the blast will kill him too. He won't get a frag if he dies too!

Strafing
Very hard to master, but something all pro's do. Never stay still when facing your opponent. Always move around and try to strafe side to side or around him. Dodge and circle. If you strafe enough your enemy can lose sight of you and you can kill him by shooting him in the back or side. Also useful for dodging incoming projectiles.

Camping
Use dark corners to hide and surprise your enemy. Make sure you have a weapon that will kill with one shot, such as the Rocket Launcher. Don't stay in one spot too long but move from shadow to shadow.

The mouse
Most great players use the mouse. It is difficult at first, but you'll learn in time. It lets you to turn, strafe, and manoeuvre much faster than the keyboard alone.

Mouse aiming
Turn on your crosshairs using the "crosshair 1" command in the console. Very effective for better aiming in heavy battles and sniping from long distances.



Armour
Don't underestimate the importance of armour. With the right armour and a full stock of health, you can take four rockets and keep on fragging.

Knowledge
Learn the maps. Know where all the weapons, health, ammo and power-ups are. Follow a pattern that will provide you access to ammo and health. Never be caught outgunned. The average life span is 5-7 frags. Doing the following will surely raise your life span.

Run
If you are outgunned or out matched, don't be embarrassed to leg it and get the hell out.

Corner attack
When being chased try to take the nearest corner. Once you have passed the corner, do an immediate 360 and start pumping some grenades from which you came.



Watch the guy chasing you run right into your trap. Try not to fall into this trap yourself. When you are chasing someone and they turn a corner, don't follow!

Anticipate
Fire a Rocket before entering a room. Shoot into dark corners before getting close to them. Fire before and after turning corners. Shoot into the water where you see bubbles:doing this you may get a kill 2 out of every 10 times.

Jumping
When being fired upon, jump around while trying to dodge your opponent. This makes it hard for them to get a clear shot at you. It also makes your enemy use lots of ammo and annoys them too!

Backward attack
Try doing a 180-degree turn and run backwards while being chased. As you are running backwards away from your enemy fire with all you got. Be careful of Lava and other traps.

180 degree turn
With a key defined to perform an immediate 180-degree turn, the possibilities are endless. The most useful reasons to do a 180 turn are: if someone is shooting you in the back, you can turn around quickly; or when you just need to make a dramatic course change. Practice performing the turn and see how it benefits your play most. Setting up the 180-degree turn is a bit complex. Enter the following:

```
bind "?" "turn"
alias turn "cl_yawspeed
1000;+right;wait;wait;wait;-
right;cl_yawspeed 180"
```

Substitute the ? for a free letter key on your keyboard. ■

Chris Green

Founding Worlds
Explorer 2260 diary

The World Foundry had the idea, but what about the detail? There are a lot of decisions to be made and a lot of information needed to produce such an in depth game...

As discussion of the game progressed and the features list grew in size and complexity, so did the minimum specification. It became clear that even 68060 would struggle with many of the features we wanted, but the announcement by phase 5 that they would be producing PowerPC accelerators offered a route which would allow even the most complex features to be implemented. Vulcan took the very brave step of supporting our decision to move development of Explorer to PPC as a priority, despite the fact that PPC had not built up much market presence at the time.

Unfortunately our path to PPC was for a long time complicated by the acrimonious squabble between phase 5 and Haage and Partner over their rival software solutions which has thankfully been resolved. The news from World of Amiga has thrown us once more but, for the present, we are continuing development of the PPC version of Explorer. We will of course be observing developments concerning OS 4 and 5 and the new "Superchip" Amiga.

Explorer's guide?

The other result of our growing ambition for the game was that Explorer 2260 would have to have a background deeper and more realistic than any other game to date.

While many games are accompanied by a hazy or incomplete plot, the concepts underlying Explorer 2260 demand a huge amount of reference material to create the feel of 'being there'. Just as an ongoing TV series needs a single reference source for all the information the various writers will need – normally referred to as a series bible – Explorer 2260, with all the external developers and in depth background material, needed a central information resource. For us, this resource is the Collins Encyclopedia Galactica (named after Ed Collins and nothing to do with any reference book companies), the main reference document to The World Foundry (TWF) galaxy. It is already over 4MB in size and still not complete, but you can see the latest version on this month's CUCD.

When Chris began work on Explorer he had already decided that this background



▶ Mmmm... a tasty looking Glooph worm, a meter long anelid delicacy much enjoyed by the Korhonen, apparently!

would contain much more than simple race descriptions. He reasoned that to present a scenario which is a feasible view of the future, as much of the galaxy as possible should be described. For a while this even extended to the quantum mechanics of Chris' Hyperspace theories! With the ever expanding detail, it soon became apparent that more contributors would be needed.

Chris sent an advertisement to the world; the pamiga email mailing list, the E2260 development website, and the E2260 mailing list. Using Amiga websites and newsgroups limits the possible applicants to a certain category: those who love their Amigas, love playing games on their Amigas and like playing space simulations. Five years ago, Explorer would have been impossible but, with the internet, the people most interested in and dedicated to the project became partners. None of the usual prejudices – race, age, gender, creed, ST:TNG or B5 got in the way; only talent and commitment were important. In short, the effort had become global.

Cute little furry creatures!

Communication can sometimes be a problem as many of the external developers don't speak English as their first language, it's occasionally difficult to get the point across. What, for instance, is a 'Cavia?'

Vaipen (one of the background developers) announced recently that an alien race

he has helped develop have heads resembling a 'Cavia'. No one reading the mail knew what that Dutch word meant. His description, "A cute little furry thing people keep as pets" didn't help much either. It took a few days of translations to 'Meerschweinchen' and outright guessing to discover this mysterious and monstrous creature he was talking about was a... guinea pig.

Apart from the occasional problem with guinea pigs, working over the internet has suited the team perfectly. Chris created a basic outline for each of the major races: the Ovaskans, Vaipen, Korhonen, Mogensen, Elariens, and Terrans (humans). From there, the background writers took over. They have created physiologies, homeworlds, social structures, religions, and special dispositions. There are also now a dozen minor races – creatures from aquatic, dolphin people to huge oranges with tentacles. Once these descriptions are finished, they are sent to Ed for approval.

He then decides which races go onto the Encyclopedia, and which need more work. Careful tabs must be kept on the details as well – only one race can have the oldest written language, the best genetic implants, and an intolerance for F'hoodla beans. Likewise, all the right species must have conflicts and peace treaties.

Aliens need to be drawn, so the writers know what they look like. Also, the 3D artists aren't the only ones who conceptualise spaceships – favourites always seem to be those the external developers submit. So rough sketches are sent to either Ed or Rob, and the work begins. The ship or alien is modelled, and either sent back to the original artist or the rest of TWF for criticism. The ability to send scanned images back and forth to people makes collaboration a snap. Responses are often the same day. The World Foundry send each other at least a dozen mails a day regarding images, programs, and beta testing.

Does all this sound a little over the top to you? Not to us! The heart of Explorer 2260 will be a dynamic, ever changing universe. We want the player to live the game, not just play it. Unlike Elite, the universe around the player is ever changing – one day you might return to your favourite planet only to find it has been invaded, and you'll want to know whether your cargo of perfume is going to go down well with the new owners! ■

The World Foundry





▶ **A famous Mogensen beauty... in a universe this big, it takes all sorts!**

The external developers

During the development of the background a number of people have contributed text files, graphics and ideas.

Chris Korhonen
Martijn Sanders
Vaipen
Dave Crawford
Andrew Scorgie
Andreas Thorn
Steven Wojciechowski
Fred Ovaska

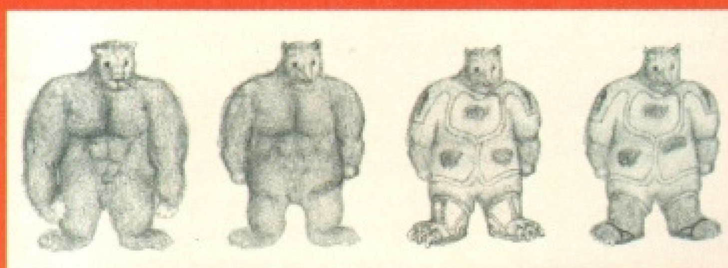
Many thanks to all of them for the work they have done.

Email confusion!

May 24

Rob: Hi, Vaipen! I've been working on some concept sketches of different aliens (the Rahn are looking quite frightful, huge sabre-like bits extending from their cheeks) and the Dah'Screwe were up on the list. So take a look at this image and tell me what you think. I want to make sure it's what you had in mind....

Vaipen: I like the pic! The expression is okay...after all, the Dah'Screwe are very gentle beings. But there are 2 points that could be different. The body should be a little more roundish, more cask or barrel shaped. The fur hides the muscle parts but I guess we should be able to see some of the features. More interesting. The arms a bit shorter, hehehehe, this one looks like a caveman:-) Though they have a roundish body, everything is proportional as with humans. The ears are more stiff. Make them more triangular. Upright standing.Well I hope you know what I mean with cavia snout and hedgehog head. I think the head will do except for the snout as I said. From aside, a Dah'Screwe seems a bit like a fat man. With a humpback. Just nicely roundish. But where a humans head at face side stops, the Dah'Screwe one continues... looks a bit like those pylons they use in schools in the gym, just like they use them on the roads in the world where they are doing roadwork. Or perhaps like a donkey hat :-) Of course, it is not so pointed. So, remove the top of the pylon and make the tip of the nose round.



May 25

Rob: How's this? It's kind of difficult to draw the snout from the front and get a good picture of what it looks like, much easier to model in 3D, so that's why I did the side view....

Vaipen: This is better! yes, I like this! The head is perfect now. The ears are good too. Mouth in the right place. The length of the arms is correct. The body is more roundish while it still looks strong. Only one last thing. Looking at the side view. This Dah'Screwe's butt could be a little bit less.. pronounced :-) I like its short -now with dictionary in hand- thick-set figure, compactness. Yes, I can see this individual scraping its clawed feet in confusion:-)

Rob: I thought this would be the most muscular of specimens, but as they'll have that custom clothing you mentioned, it's not too critical.
So I'll work on the body roundness and send another pic.

Vaipen: And you did:-) oh, will you make drawings of Dah'Screwe with clothes on? They like earth colours naturally. Beige, brown tints. Dark greens. Loosely falling clothes. The holes are in different places and shapes. Some may be perfectly round while other openings might be oval or rectangular. Even snake-like.

May 28

Rob: Here's the latest, with clothes. I'm thinking their clothes will have a texture similar to a bathrobe... the boots could be anything from a popular new style (as all terrain/mountain stuff is nowadays) to very practical traction in the particularly windy months.

Vaipen: Okay, bathrobe texture sounds good. Perhaps you could also use plain textures, just like linen or cotton. That is what I was thinking off, but we should not fall in the trap again of aliens always being so homogeneous. Looking at he pic, this looks about what I had in mind. The shoes...I think most Dah'Screwe walk bare-feet. If they can't I think they will use normal shoes without these special toenail thingies. They might also like some kinda sandal.
The openings are exactly right, just scatter them and make them asymetricly placed. Just think a bit medieval. Not torn, but nicely cut and clean openings, asymmetrically placed, each individual looking different.

June 1

Rob: Here's the latest!

Vaipen: Saw it! Looks fine to me! The sandals are nice.
Bis spater,

Rob: Aufwiedersehen!

We follow the musical theme with reviews of a couple of major new audio releases, Soundprobe 2 and Samplitude Opus. For the less audio inclined there are cameras, scan doublers and oddments - not to mention the cut-price Siamese V2.1

Tech Scene

Sound Probe 2.0



On its original release it was the best thing to happen to Amiga audio in ages. Now here's version 2 and it's even better.

It's back, and it's got more tricks up its sleeve than ever before. Sound Probe originally racked up a 90% score in the Jan 98 issue of CU Amiga. Since then it's been improved and expanded to include an exciting arsenal of special effects and new features.

If you missed the original review, go and dig it out or get it from our back issues department. For now though I'll fill you in on the general picture. Sound Probe is a sampling and sample editing package designed to work with as many different hardware configurations as possible. To that end it has support for sound cards via AHI, direct support for Aura, Aura 8, Clarity 16, Megalosound, Megamix Master and generic parallel and PCMCIA samplers. It also goes out of its way to import and export as many audio file formats as possible, including 8SVX, AIFC, AIFF, AVR, IFF16, Studio16, WAV and RAW.

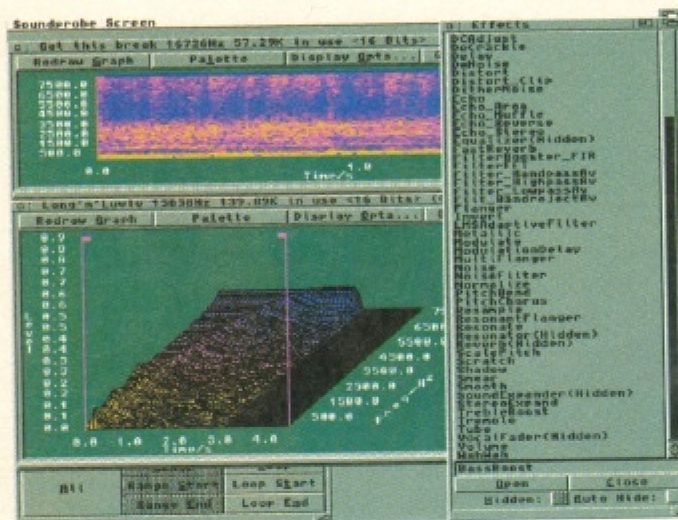
Once you've got your sounds sampled or loaded the fun can begin. Pick an effect. Any effect. Anything from the most obvious day to day process to the most abstract. It's almost certain you'll be able to do it with Sound Probe. Reverbs... yeah, hundreds of them. Flangers and phasers... an unlimited amount of variations. Then you've got your more exotic options, like the still to be improved vocoder (as used on the vocal in Air's "Kelly Watch the Stars"), the resonant filter for extreme filter effects, the pitch bending time stretcher... Then there are the useful 'professional' type processes such as the vocal fader (which tries to remove vocals from a stereo sample), the compressor for evening out sound levels and the 128 band graphic equaliser.

Add to those the string of enhancement processes, such as decrackle, brighten, bass boost and so on, and you've got a lot of power at your disposal.

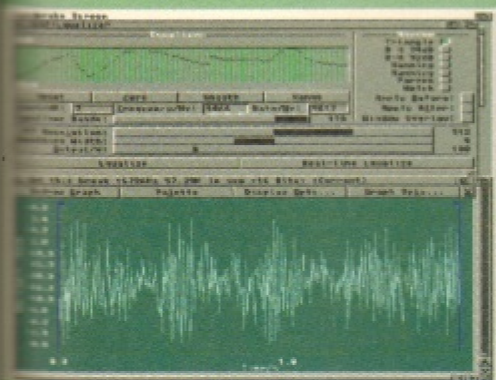
Sample this

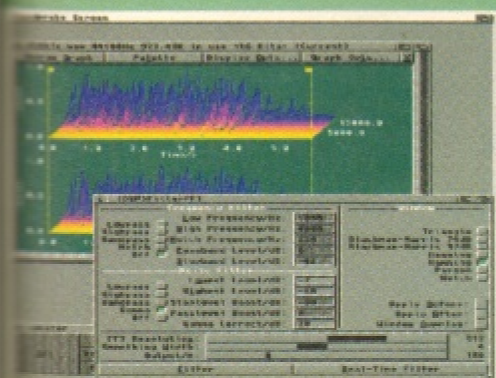
For sample-based musicians, Sound Probe is a godsend. For example, while the Amiga's most all-round powerful tracker, OctaMED SoundStudio, has quite a few effects available during playback, these tend to be quite basic due to the computing power required to generate things like reverb, filtering and so on. That needn't be a limitation now, because you can prepare all your samples from within Sound Probe before sequencing them in SoundStudio. With Sound Probe and SoundStudio it's quite possible to produce top quality 16-bit tracks with as many sounds and effects as you deem necessary. What you have is the equivalent of an entire studio full of black boxes with flashing lights crammed into your Amiga, even if it doesn't all work in realtime.

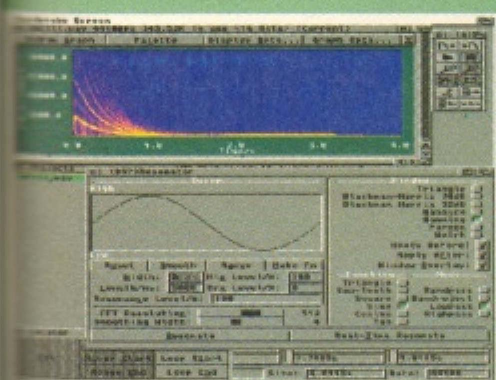
That said, many of the effects will work in realtime. The maximum output quality of the realtime effects varies depending on the complexity of the process and the CPU power you have available. You can also set a number of sliders and switches to define how coarse of fine the processing is (whether you use filtering for example) which reduces the CPU load and therefore allows for higher output frequencies. In some cases this can make the difference between having enough power to perform the realtime processing or not at all. These options also come in

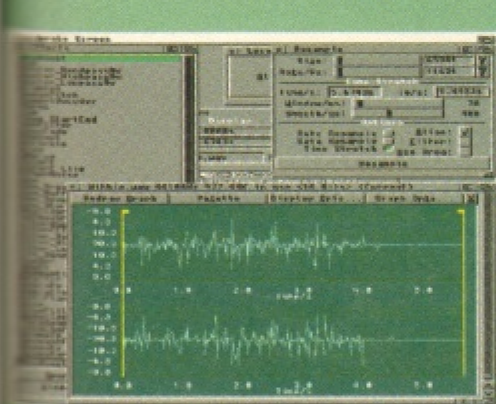


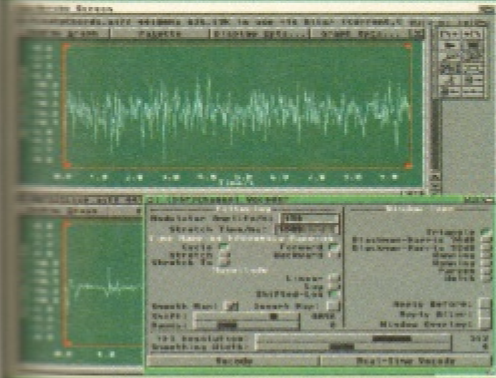
▲ Any of the effects can be chosen from the generic Effects list or picked from the various menus.


The multiband graphic EQ in action.


Or maybe you'd rather use the FFT filter instead.


More anarchic filtering from the resonator...


Pitch-bending time-stretching is all the rage!


Then go all 70s kitsch with the vocoder.

handy for reducing waiting times when working with larger samples.

Get lost

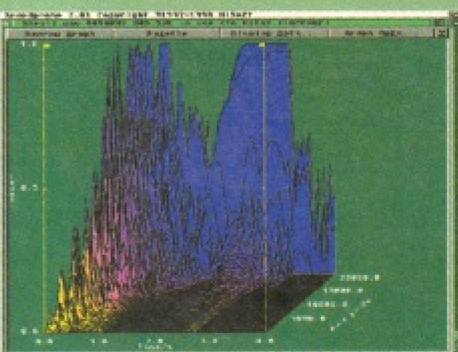
As with the previous release, it's quite easy to get lost in the program. There are countless options available at every turn, and while some areas have been reorganised to aid navigation, you still get the impression that things could be presented in a more easily digestible manner. For example, you might have to open three or four similarly entitled option windows before you find the one that includes the switch you need to flick: Sampling, Audio, Audio I/O Control, Project Info, Status, Hardware Settings, Audio Options, Sampler Options, Project Options... which do you pick when you want to alter the sampling device? It's undoubtedly preferable to have more options than less (this isn't a Mac application after all) but at times it does become a victim of its own configurability.

Even so, it's odds on that once you've got things set up for your system you're not likely to need to change them, and who knows, in your search for that elusive button you might bump into a few features you never would have discovered.

Sound Probe uses a freeform system of windows for everything. The only permanent fixtures are the pulldown menus. Due to the size of a lot of the windows things can get quite cramped unless you have a large screen size. You'll notice that the cover disk demo starts up on your Workbench to ensure compatibility with your system. However, a Productivity or graphics card screenmode is recommended if you can stretch to it, or a flicker-fixed interlace screen. Otherwise you'll find yourself constantly resizing windows and clicking the front-to-back gadgets as you work, which can be a pain.

Not just a pretty face

The multi-coloured 3D FFT displays are now a lot more useful than in the original release. Whereas before they offered an interesting insight into the various frequencies contained in your sounds, they now have more detailed frequency markings on the Z axis. In conjunction with the multi-band graphic equaliser and the various filters, it's now a lot easier to pinpoint and boost or cut specific frequencies within your samples.



New for version 2

There have been lots of additions, updates, fixes and improvements made around the system. Here are some of the more prominent newcomers:

- **ARexx controllable**
- **128 band graphic EQ**
- **Resonant filter**
- **New AHI sampler**
- **Vocoder**
- **Better frequency display on graphs**
- **Faster FFT routines**
- **Vocal fader**

Automated ARexx

One of the most potentially powerful new additions to this version is the ARexx support. This allows you to set up scripts to automatically import, process and export files – a particularly appealing feature if you ever have large numbers of sound files that need collating, converting or enhancing. For example, if you were putting together a collection of sound samples to be released on CD for public consumption, you could get Sound Probe to load them all in one by one, maximise their volumes for consistency and then have them saved out in the required file format. If you had a load of sounds lifted from old vinyl records, you could add a Decrackle process in there too, and maybe Bass Boost and Brighten them if they were from a tightly packed LP.

Overall this is a more than worthy update to an already excellent bit of software. If you're interested in making your sounds that bit better than the rest then this is an essential purchase. While Samplitude over the page offers its own individual angle on the sample editing theme, Sound Probe has just too much on offer to be ignored.

Tony Horgan

SOUND PROBE 2.0

System requirements: 68020 or higher; Workbench 3, 4MB RAM, hard drive

Ease of use 80%
Generally good but there still needs to be more order in the tombola of windows and options.

Performance 93%
It does things that you can't do with anything else, and does most things you can do with anything else.

Value for money 94%
It's priced to sell and probably works out at about 1p per feature, but I haven't worked it out exactly.

OVERALL
An essential piece of software for anyone into sampling
92%

Samplitude Opus

■ See cover disk instruction pages for price and availability details

You've got a working version of it on this month's cover disks. Let's take a look at what extras the professional option offers.

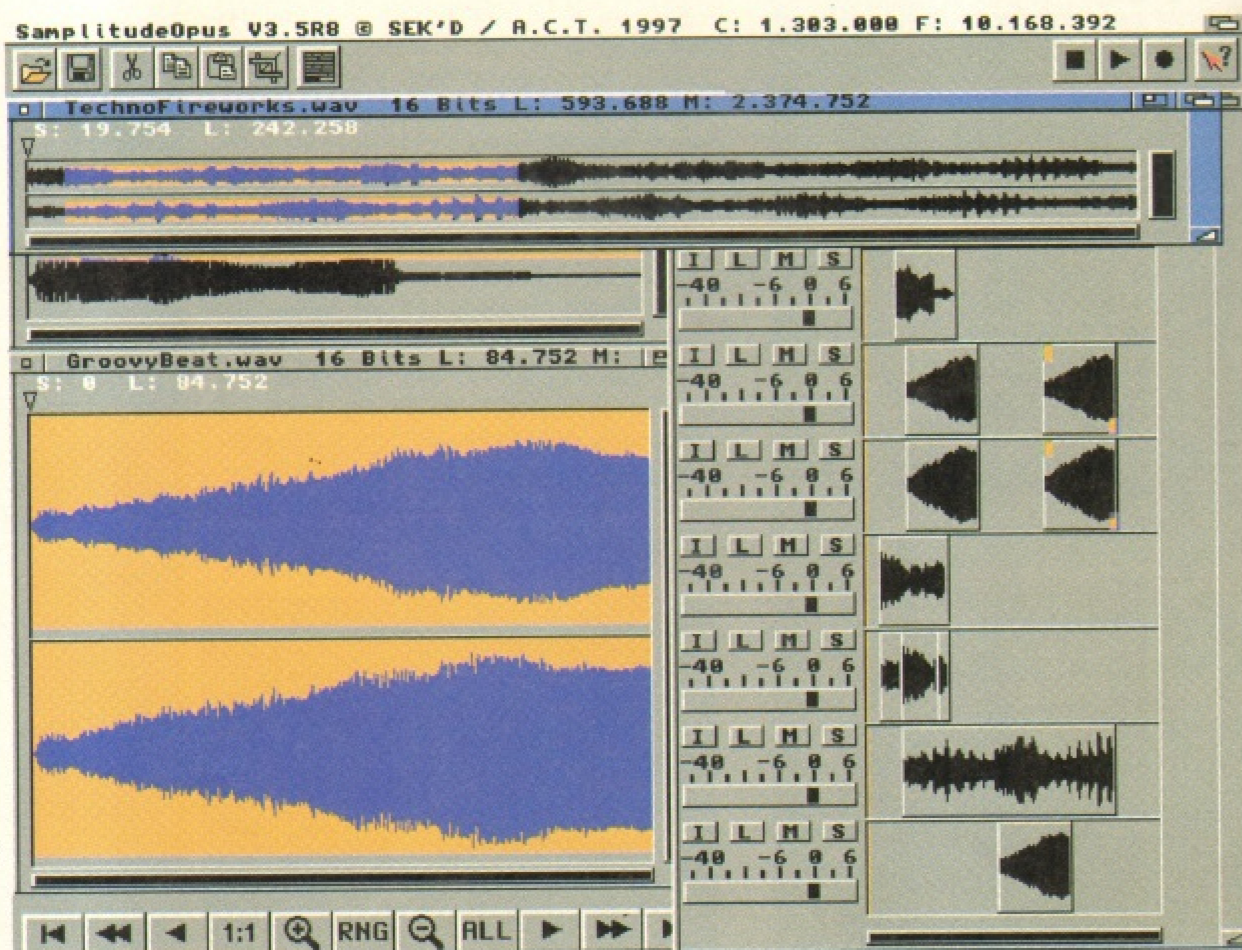
Like Sound Probe reviewed on the previous pages, Samplitude Opus is a sampling and sample editing system. Unlike Sound Probe it doesn't go all out to emulate every effects unit in the universe but instead sets its sights on offering an environment in which sound quality and professional features are foremost.

The last time we looked at Samplitude was way back in about 1993 when I first tinkered with it in conjunction with a Maestro sound card. Having since had a Toccata card permanently installed in my A4000 I've been using that same version for the past five years for simple sampling jobs. That's about all that old version is capable of, but these days development of the software has been taken over by ACT (Albrecht Computer Technik) and it's got rather a lot more to offer.

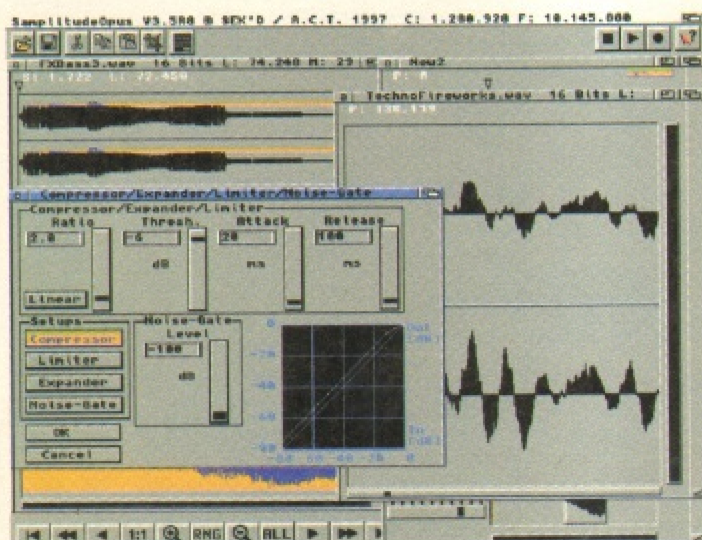
Card compatibility

Samplitude can work with a range of sound cards including Toccata, Prelude, Maestro and the Amiga's internal sound chip. If you don't have a sound card you can also sample via the parallel port in 8-bits, although to be honest if you limit yourself to 8-bits you're never going to push Samplitude Opus to its full potential.

The focus here is squarely on hard drive recording. While Sound Probe can record to hard drive and edit hard drive files, with Samplitude hard drive recording is the core around which everything else fits. The user in mind is someone who has a well stocked Amiga (Zorro sound card, plenty of RAM, 68060, very fast SCSI drives, CD-R...) who wants to generate high quality soundtracks for multimedia projects or master commercial quality CD music. This isn't supposed to be a tool to complement the average tracker musician or the occasional sampler dabbler, even though it's got enough under its belt to cater for most of those too.



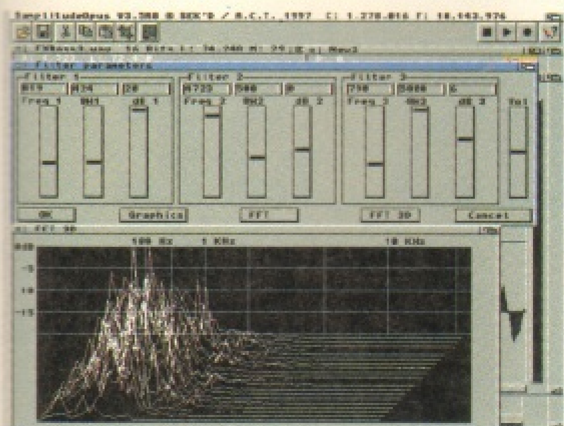
▲ The virtual project control panel allows you to mix and match various samples quickly and easily.

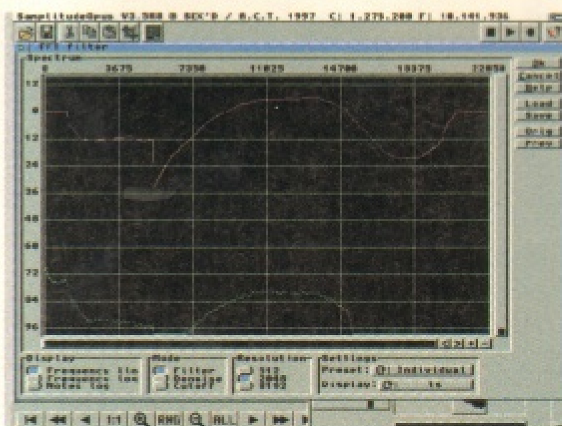


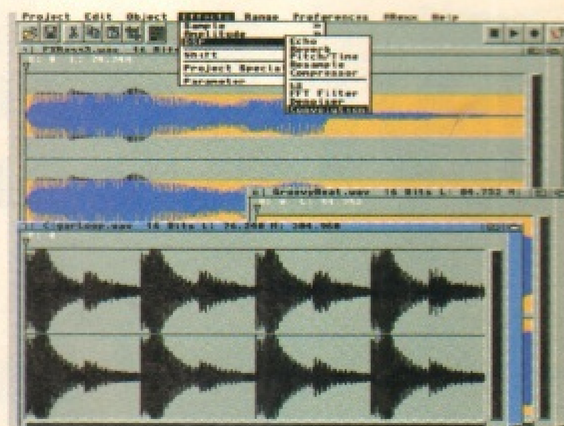
A typical session with Samplitude Opus would see a number of sections of audio being sampled direct to hard drive in 16-bit, arranged using the Virtual Project manager (a kind of big audio clipboard), mixed and played in realtime during editing of sound levels, filtering and other effects processing, then bounced down to a single stereo 16-bit audio track on hard drive. That could then be replayed live from the drive or cut onto CD (with the help of CD burning software).

As you can see from the cover disk edition, there are specific CD creation features included, such as direct importing of raw CDDA data (though not directly from audio CDs), exporting of the same, and also the ability to save out a version of the AIFF sample standard that includes imbedded track markers.

Samplitude Opus is mostly concerned


▲ The FFT graph comes in handy for filtering.


▲ More filters are available from the scientific-looking FFT section.


▲ Strange combo reverb type effects are offered by Convolution.

with producing clean results, which is reflected in the effects it has to offer.

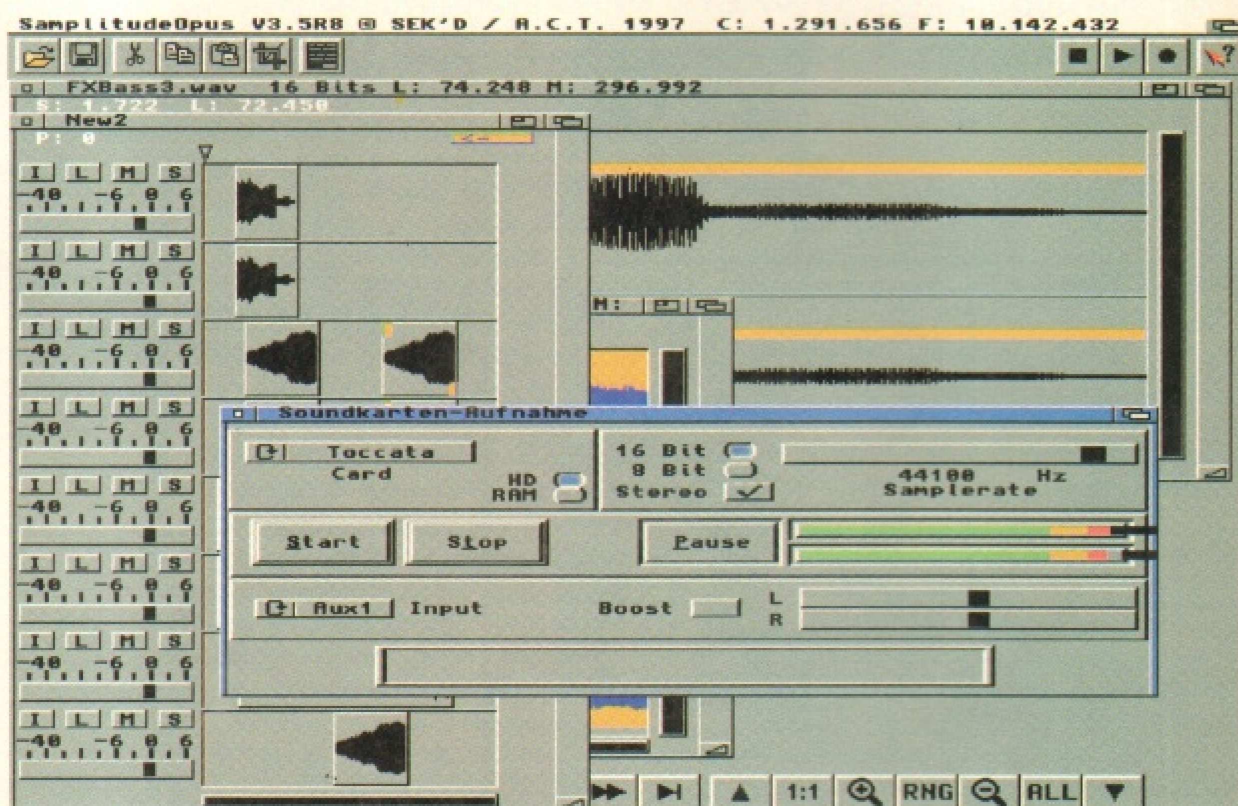
There are nowhere near as many as in Sound Probe, but ACT promise that they are as accurate and free of distortion as is possible. Along with the basics like cut, paste, reverse and normalise (although strangely enough no apparent Undo), you will find an echo and reverb option with variable settings.

To be honest they're hardly the apex of delay effects but they do the job well enough. There's also a compressor which can be adjusted so as to even out the volume levels of different parts of your samples (ie; to keep vocals or live instruments at a regular level) and a fixed parameter

Hard drivin'

To get the most fromSamplitude's professional hard drive editing features you'll need to get your Amiga properly kitted out for the job. Working with relatively small hard drive samples of around a minute or two in length won't overly tax the average system, but if you want to work with an entire chunk of CD audio (70 minutes or more) you'll need a very fast SCSI interface and a large fast hard drive. You'll need at least twice as much hard drive capacity as the amount of data you intend to work on. A minimum for a full CD's worth then is a 2Gb drive.

It's also essential that your drive is formatted and partitioned for optimum performance with enormous files. Make sure the block size is set to at least 16K. With a smaller block size and anything but the best in SCSI controllers you could find yourself going insane as you wait what seems an eternity for selected sections to be located and played from the hard drive. Then you've got the business of cutting, pasting and processing to contend with. One day soon we'll be able to afford to have 2Gb of RAM on our desktops. I look forward to that day...



▲ Recording direct to hard drive is made easier with the level meters and independent left and right gain controls.

Denoise function (it doesn't offer any options). One of the most powerful processes is the EQ section. This offers a 2D graph for overall frequency response and also a 3D FFT display. Using these as a guide to the frequencies in your sample, you can then select three frequencies to be cut or boosted by your chosen amount, then see the effect it has on the FFT, and of course your sample.

The most interesting feature here is the Convolution effect. It's not explained well in the documentation, but it seems to map certain characteristics of one sound (from the copy buffer) onto another (the currently selected sample). In most cases it sounds as if reverb reflections from the copy buffer are mixed with the main sample, although in other cases the two seem to be melded together in a more subtle fashion. Unfortunately the output level of this effect seems to rise from start to finish, making it difficult to keep the volume of the resulting sample under control.

Take your pick

It's a case of horses for courses whether you're going to find Samplitude or Sound Probe more to your liking. Fortunately for each other they're not both going for the same ground. If hard drive recording and editing is a major requirement of the jobs you've got planned then Samplitude Opus is definitely the favourite. With its multitrack mixing and virtual project system it will make your life much easier and given the right hardware is up to the most demanding of audio production jobs. ■

Tony Horgan

SAMPLITUDE OPUS

System requirements: 68030 (including FPU), 2MB RAM, OS 3.0+

Ease of use 79%
There's not much to go wrong here although the occasional bug gets in the way of things

Performance 88%
Good with large hard drive projects and while not overladen with features, those present are important and work well

Value for money 85%
Priced for the professional market but fairly reasonable considering what's on offer

OVERALL
The best hard drive recording and editing system available
86%

Eyetech CDPlus SE

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For Amiga 1200 owners who have not yet joined the CD-ROM revolution, here is the fast and cheap Eyetech CDPlus.





If you still have not got a CD-ROM drive attached to your Amiga, then now is a good time to buy one. Various companies are shipping complete CD solutions for the A1200 at under £100. Eyetech, purveyors of all things IDE for the Amiga, are joining in on this pricing war with their CDPlus SE systems. They offer a 20x speed CD-ROM drive for £99.95 and a 32x speed one for only £20 pounds extra.

The Package

The CDPlus SE package consists of the CD drive itself and Eyetech's EZCD-SE, the economy version of their 4-way buffered IDE adapter and driver software. The CD drive mechanism is housed in a slim-line metal case. It requires and is supplied with an external PSU. The standard version of the drive is shipped without any audio out connections, but - as an optional extra - you can specify an audio mixer. The is a useful and unusual addition for an external drive and allows you to mix together the audio output of your Amiga with the CDDA output of the drive. Both the drive mechanisms, the 20x and 32x, are manufactured by Lite-On, Inc. and are excellent. Fast CD-ROM drives have a tendency to sound like a lawn-mower, but not these; they are whisper quiet.

The drive is hooked up to your machine via the 4-way adapter. This is a device which fits to the IDE connector inside your A1200 and allows you to use up to four IDE drives with your machine. Installation is a simple process, helped by the clear instructions supplied. This latest revision of the 4-way adapter seems more stable than previous releases, although it may create timing conflicts with some hardware. The driver software provided is a registered but restricted version of Elaborate Bytes's atapi.device (as supplied with the IDE-Fix package) and the old, freeware AmiCDROM filing system (the fore-runner of AmiCDFS). It is easy to install, usable, but slow. By upgrading to the full version of EZ-IDE software you immediately gain a 30% increase in speed and a lot more flexibility.



Not fast enough?

The point of buying a 20x or 32x speed CD drive, obviously, is for its performance. So how fast are these drives? A standard (1x) speed CD reads at an average rate of 150 Kb/s. So, theoretically, a 20x speed should read at 3.0 Mb/s and a 32x speed at 4.8 Mb/s, right? Wrong. The speed quoted is actually a maximum speed and will only ever be achieved when the drive is reading from the outside edge of a disc. Add to that the poorly implemented IDE interface that the A1200 is blessed with and things slow down considerably.

The ATA IDE standard that is implemented via the A1200's interface is known as PIO (Programmed I/O) Mode 0. Mode 0, theoretically, has a maximum transfer rate of 3.3 Mb/s and is a non-DMA standard. This means, that basically, the processor is required to perform the data transfer.

The performance

How do these drives perform in practice? In raw transfers tests, when using the full EZ-IDE software, both drives achieved speeds of about 2.0 Mb/s. (For reference, an 8x drive with the same setup gave 1.2 Mb/s.)

Although this is not amazingly quick, it is quite impressive given the fundamental limitations present. The fact that the results were similar for both drives is because of the bottleneck caused by the A1200's IDE interface. In practice the 32x will be faster, since it has a better seek time (that is, it can locate a required position on the disc more quickly). Tests indicated that for tasks like reading directories, the 32x speed drive is about 20% faster than the 20x one.

So, these drives are no slouches, but don't expect miracles.

The judgement

There is no question that the CDPlus system is of high quality. But is it worth the money? OK, the extra performance boost given by the 32x drive may not be enough to justify the extra price, and the full driver software and the audio mixer are extra costs - so perhaps this is not such a good deal as it seems? Regardless, the CDPlus, even in its basic form, is highly usable and offers an economical way of accessing CD-ROMs from your A1200. ■

Richard Drummond

EYETECH CDPLUS SE

System Requirements: Amiga 1200

Ease of use — Should pose few problems.	91%
Performance — Not blindingly fast, but fast enough.	86%
Value for money — Despite the hidden extras, still good value.	92%

OVERALL
There is no excuse not to buy a CD-ROM drive now — **90%**

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VDC200p Digicam

■ Price: £199.95 ■ Developer: Power Computing ✆+44 (0) 1234 851500 ✱ www.powerc.com

Power Computing follow up their first entry into the Digital Camera arena with another budget wonder.

Like Power Computing's first offering in the digital camera stakes (reviewed in the June 1998 issue), this camera comes from Taiwanese budget scanner maker Mustek. Although a significantly higher specification than the previously reviewed VDC-100, the VDC-200P should not be thought of as Mustek's assault at the high end of the digital camera market, more a way in to the bottom end for people who could not live with its feature – free smaller brother.

Structurally the VDC-200P is a big improvement over the cheaper Power camera, larger and better shaped to fit the hand. The camera is simple enough in use, too – not as simple as its stable mate, but then this camera has a few more functions than the ultra basic VDC-100.

The most obvious new feature is the LCD screen at the back. You can monitor the image coming through the lens in real time, giving you a rather better idea of what to expect when you press the "shutter" button. The functions of the camera are also selected through a menu displayed on the LCD screen. While switched to Camera mode, the menu allows you to alter the brightness of the screen, set the self timer, select high or low resolution images, and switch the flash on or off. In Playback mode, you can switch between a nine picture index view or single picture, and you can delete either the current picture or clear the entire memory.

The software supplied with this camera is a minor update of the same PowerDC software we looked at with the cheaper camera.



▲ Images come out rather soft, but the resolution is decent.



▲ Bright sunlight can wreak havoc with the low dynamic range of the CCD.

It allows you to fetch all the images from the camera or download them singly; the LCD screen allows you to preview the images in memory and download only the ones you want. You can save the image as a JPEG, an IFF24 or a PNG. You can set the serial device and connection speed, and can configure your own viewer software or use PowerDC's own. As before you can use PowerDC to take a photo remotely, but with this camera you can also set all the camera functions direct from the software. Click on the extended camera functions button and you can switch resolutions, control the LCD and flash, even switch the camera off.

PowerDC is admirably functional and simple, and a lot more stable than the crash-prone PC software the manufacturers supply in the box. The image quality is a step up from the cheaper camera. I suspect that the CCD array is common between the two cameras, and the lens no great improvement, still low grade and fuzzy. With 2Mb on board, however, there is less compression of the images and it shows.



▼ ... But with careful light and a bit of sharpness added with post processing, quality can be very decent.

Specifications

- Resolution: 470k pixels
- Memory: 2Mb, gives 50 pics at 320 by 240 or 20 at 640 by 480
- Viewfinders: Optical with simple frame finder, 45mm colour LCD
- Focus: Fixed
- Aperture: f8.0 and f2.8
- Outputs: Digital out, Video out, CF card slot

Dynamics

The dynamic range is poor, so that bright objects against dark backgrounds tend to burn to white, and colours are not too stable, being balanced well for daylight but faring less well with fluorescent or incandescent light. The flash helps out in this but it has slightly too strong a forward response leading to spotlighting and glare. A simple two position waterhouse stop allows you to close down the lens aperture if it gets too bright, but close – up flash or bright sunshine can flood out the image or cause weird discolouration.

The image quality should certainly be sufficient for small images in a DTP document or on a web-page however – look at the examples on this page and make your own mind up. As with the cheaper Power Digital camera, this one majors on value for money. To get these kinds of features you normally have to spend rather more money than this. Image quality is still rather suspect; again not surprising, but the price is heading further towards the territory where you start expecting good image quality. If you can stretch your budget another 60-70% you could afford an Olympus 420L, a much better camera. On the other hand if you're going to have to stretch your budget to afford this camera then do it, it is miles better than anything cheaper. ■

Andrew Korn

VDC200p Digicam

System Requirements: OS2.05 or better, 1Mb minimum, 68020 and 2Mb recommended.

Ease of use 93%
Easy camera, easy software

Performance 78%
Software is all you would need, image quality isn't quite.

Value for money 95%
Great features at a very low cost.

OVERALL
Good package with acceptable output and a fantastic price. **86%**

Siamese V2.1



■ Price: £29.99 ■ Developer: Siamese Systems ✆01525 211558
www.siamese.co.uk

Siamese RTG becomes available at a budget price – but it is serial only.

Regular readers of CU Amiga will be fairly familiar with our positive opinions of the Siamese software. The problem is that a lot of people aren't entirely sure what Siamese would offer them – it is a quite unique product in the world of computer software, and it is often said that without a live demonstration, no-one will really see the value of Siamese.

Siamese V2.1 CD contains a mass of documentation on the Siamese system, including the entire Siamese web site and several digitised "introduction to Siamese" video clips. There is also the Siamese V2.1 software, which is basically the same as the full V2.5 RTG software except that it will run only over a serial link. Installing the software involves a simple installation from CD for both the Amiga and a PC. The two are connected together and the network software configured on both sides. You will of course need a null modem cable – not provided.

Aptly named, Siamese melds your Amiga and your PC together. It is possible (if confusing) to control either computer with the mouse and keyboard of the other. You can transfer files much in the manner of the various PC/Amiga networking solutions and you can even share clipboards, so that you can cut from a document on your Amiga and paste into a document on the PC, or vice-versa. The range of functions to be installed is set up from a nice straightforward prefs program on the Amiga side.

The most intriguing and powerful of these functions is RTG mode. When this is activated, you will find that your Amiga's screenmode selector contains new SiameseRTG screenmodes. When a program opens a screen in one of these screenmodes, the screen is opened up on the PC! The Siamese client intercepts the screen drawing commands, sends them down the serial cable, and redraws them under Windows. What this means is that you can open your Workbench screen, or a PPaint screen, or whatever else uses retargetable screens, on your Windows 95 or NT desktop.

How fast?

As the connection is over serial, the speed at which an Amiga screen is drawn on the PC is not terribly fast, even if you are running the system through a fast serial add-on such as the whippet. The way the screen drawing is handled is very clever – all the intuition gadgets are recreated on the PC side, meaning that only the drawing instructions need to be sent; bitmap graphics have to be sent whole, and therefore take a lot longer. Opening Image FX on the PC, the screen gadgets draw very quickly, while the bitmap preview screens are rather slow. When you work with multiple small preview windows, the slowdown when any individual update has to be drawn is not a problem, while for an AGA Amiga owner, the benefits of opening the ImageFX screen on a large 24bit PC screen are considerable.



▲ Siamese lets you open multiple Amiga applications on a nice 24 bit display under a nasty operating system.

The screen redrawing is not 100% perfect; small amounts of corruption occur, especially with MUI applications, but this is a very small price to pay and never worse than slightly annoying. The bitmap slowdown makes something like a PPaint slow, but as it works by differential updates, it is almost useable. Over Ethernet, it is quite fast enough. Wordworth, which updates the screen far less intelligently, is unusable. Open it on the PC screen and you can watch it blit grey blobs to the screen for a couple of minutes before it manages to figure out a blank page. On the other hand Pagestream works great, especially if you display bitmaps with outlines. Workbench works very well, a clever little touch replaces the backdrop image with one stored and drawn locally, so you can have a nice Workbench backdrop without that having to travel over the serial link.

There are certainly imperfections with the Siamese software. I found that the option to mount PC drives did not work on my computer – apparently this is because it clashes with the deficons option in NewIcons. Compared to what author Paul Nolan has achieved with the system, these imperfections seem like petty problems that you can be sure will pass in time. What Siamese does is unique and rather brilliant. At this price it's not much of a risk, and in my opinion, if you have an Amiga and a PC, you're mad not to even try it out. ■

Andrew Korn



◀ You can even open a Workbench screen and an Opus screen simultaneously.

Siamese Ethernet

Siamese V2.1 is in fact a very clever advertising gimmick. It is cheap enough to be tempting to try, useable enough to persuade people that they want it, and slow enough to make people think seriously about upgrading to Siamese Ethernet. With an Ethernet connection, even bitmaps are drawn pretty fast – Siamese over Ethernet is amazing.

Serial will not normally go over 115200 bits/s while Ethernet can drive Siamese at up to 500k bytes a second. If you have an Ethernet card for your Amiga, then the full Ethernet ready software will set you back £99.95. Alternatively you can get it with a hydra Ethernet card for A1200 or A4000 for £199.95. In either case, Siamese systems will refund you the full cost of the V2.1 CD. Smart move!

SIAMESE V2.1

System Requirements: Amiga with OS3.0+, PC with Windows 95, null modem cable

Ease of use Not bad, but still a little clunky, some odd difficulties occur	83%
Performance Very slow, but what it does is amazing	90%
Value for money Superb price, with money back upgrades	98%

OVERALL
Best thing to happen to a PC **94**

Scan Magic



■ **Price: £54.95 (Internal) £99.95 (Internal with flicker fixer)**

■ **Supplier: Power Computing ✆+44 (0)1234 851500**

http://www.powerc.com

For ages Amiga 1200 users have been crying out for scan doublers. Now the market is awash with them.

A scan doubler is a device which allows you to connect a high quality VGA monitor to your Amiga and be able to view the native video modes on it. In the June issue of CU we reviewed the first such devices for the A1200 to appear on the market, manufactured by Micronik. Here we look at two more from Power Computing.

Power's Scan Magic comes in two internal versions: one with and one without a flicker fixer. Both allow you to display NTSC and PAL screens on a VGA monitor, while the flicker fixing version also gives rock-steady interlaced modes as well.

Plugging them in

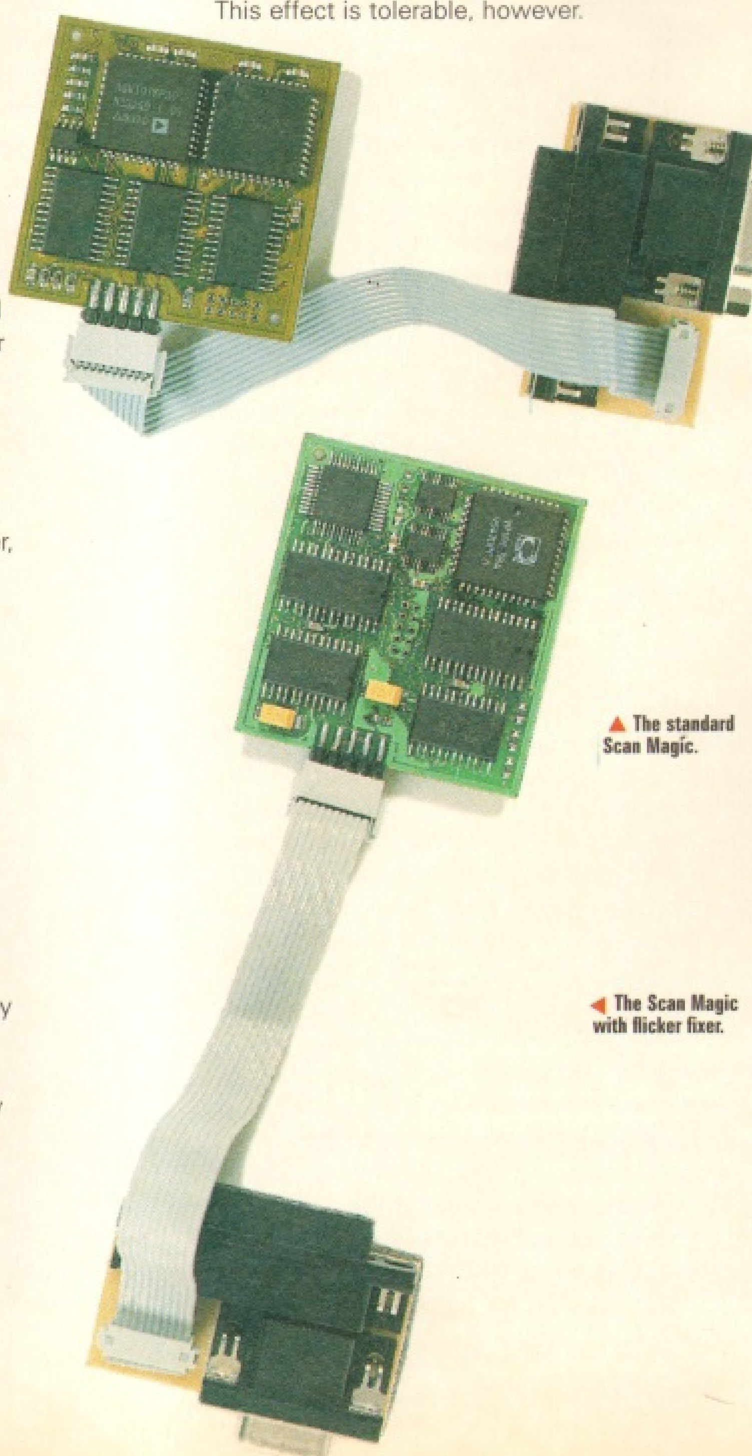
Both versions of Scan Magic consist of a small circuit board connected by a piece of ribbon cable to a double-sided socket. One side of this socket plugs into the RGB port of your Amiga, while the other is a standard VGA connector into which you connect your monitor. This circuit board fits over the Lisa chip on the motherboard of the A1200, the custom chip responsible for generating the AGA video signal.

Installation of Scan Magic is a similar process to that of the Micronik scan doubler, although simpler and tidier since it has only one board. Unless you have a tower-cased 1200, though, you have to dismantle your machine, removing the keyboard, floppy drive and the shield. You are also left with the problem of what to do with the cable that joins the two halves of the Scan Magic together. Obviously, this is a device more suited to a tower system.

Do they work?

Once installed both versions of Scan Magic works invisibly, giving crisp, steady images with the non-laced video modes. The display quality is on par with the Micronik devices, but a similar flaw occurs: no black borders. That is, the black border effect produced by commodities such as MCP is bypassed by both devices. Not an essential flaw, but annoying.

The flicker fixing Scan Magic does a creditable job with interlaced modes, too. For static images it is perfect. For moving images, however, there is a discernable flicker. This is a consequence of the way interlaced modes and the de-interlacer function. A complete display is built up in two monitor refreshes. In the first frame only the odd rows are produced, whereas the even rows are filled in on the second frame (and so on, in alternation). On moving the mouse pointer, for example, when the second half of the pointer image gets displayed, the pointer has moved from where it was when first half was displayed; hence, the flicker. This effect is tolerable, however.



▲ The standard Scan Magic.

◄ The Scan Magic with flicker fixer.

Living with AGA

So you have got yourself a flicker fixer and a nice VGA monitor. How do you overcome the two main limitations of AGA: namely, its poor speed and its limitation to 2Mb of graphics memory.

1. Open WB on a Multiscan Productivity screen to get a solid 640x480 display. (If you have a flicker fixer you may prefer, say, PAL laced at 700x500.)

2. Don't make screens too deep. Lots of colours will slow the system down and consume memory. If you have a fast processor, 64 colours is quite usable.

3. Use a WB replacement. Workbench's allocation of drawing pens is poor. Replace it with, say, Scalos, to make better use of that limited number of colours.

4. Get a copy of FBlit. FBlit is a hack which replaces some of the OS blitter functions with CPU functions. This has the benefit, for fast processors, of speeding up blitting operations. It also gives you the option of forcing named programs to use Fast memory for non-displayable bitmaps, thus conserving precious Chip RAM.

Are they worth it?

Both versions of Scan Magic are excellent, the standard version especially so because of its low price. The flicker-fixing version is worth the extra cash if you need de-interlacing; it does allow you to have large, steady screen displays, but you will have to live with the update flicker. ■

Richard Drummond

INTERNAL SCAN MAGIC

System Requirements: A1200 and SVGA monitor

OVERALL
A cheap way to get a high quality screen display

90%

INTERNAL SCAN MAGIC WITH FLICKER FIXER

System Requirements: A1200 and SVGA monitor

OVERALL
The best Amiga display this side of a graphics card

92%

Catweasel Mk II

■ Price: £49.00 ■ Developer: Individual Computing ■ Supplier: Golden Image © 0181 900 9291

The peripheral that no-one can manage to spell correctly gets a whole new incarnation.

It used to be so simple when the only annoying thing about Amiga floppy drives was the clicking. But once it became clear that the rest of the world was using high-density floppies, Amiga owners discovered that Paula is incapable of handling high-density floppies at full speeds. This was a bad thing, and has condemned us all to a life of expensive solutions for accessing HD floppies so important to talking with PCs and Macs.

The advent of cheap removable media like the Zip has taken some of the sting out of this necessity, but it's still handy to have.

Calling the Clock Port

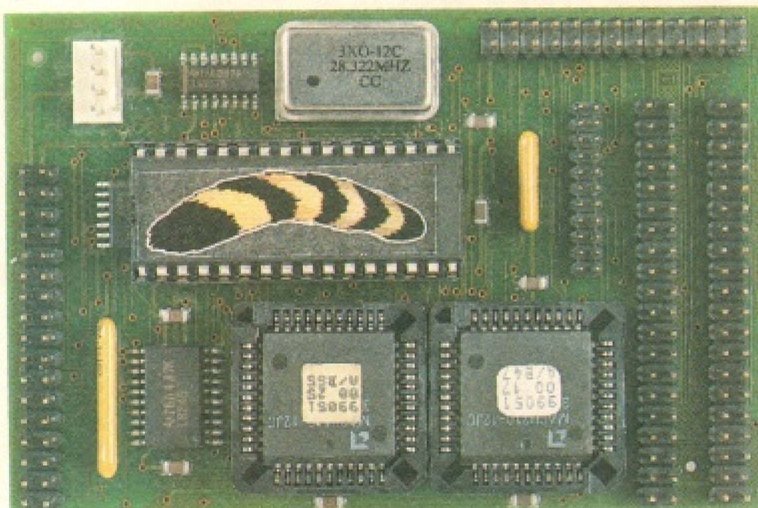
Two of the biggest complaints about the A1200's design were the lack of a high-density floppy drive and the lack of a battery-backed clock. Instead, the computer came with a small 22 pin header where third-party clock modules could be placed. The Catweasel Mk II takes advantage of one problem to solve another.

By now, just about everyone has a clock on their accelerator card anyway, so that clock port is tantalisingly idle. In order to use the Catweasel Mk II on the clock header, you need the "correct" header. The most common is a 22-pin version which sits in the middle of the machine, near the keyboard connector and (at least on some models) under a small, independently removable RF shield. Some machines have the header closer to the hard drive and it may consist of 40 pins, or may not exist at all, in which case this option isn't available to you.

Like the original Catweasel, the Mark II can also live on the IDE port, but that requires a custom cable for A1200s and means you're hogging a spot on the IDE bus, although there is a passthrough. If you connect to the IDE bus, you will need to power the Catweasel by plugging in a supplied cable to a hard drive power connector.

Word of warning

The Catweasel was incompatible with the Apollo A1200 030/40 accelerator board but did work with a Blizzard 060. Check if your card disables the clock header in an A1200.



▲ The only PCB which has a cats tail chip.

Therefore, the IDE option is not recommended for desktop A1200s (heat and space are also serious concerns). For towered 1200s or other machines with an IDE bus, the beefier power supply should be sufficient.

The clock header provides sufficient power for the Catweasel. The manual states that you can use the power connector if necessary, but I found that plugging it in actually caused horrible system instability and made the unit extremely hot. The Catweasel requires drivers to run, which are installed off of a standard Amiga floppy disk (meaning you shouldn't throw away your old drive until you install the Catweasel software and make sure it's functioning!)

Getting your floppy in

The primary use of the Catweasel is to replace the Amiga floppy with a cheapie PC high-density floppy drive. Of the various manufacturers out there, the developers have tested most, with Teacs coming highly recommended, most others offering acceptable performance, and Mitsumi/Newtronics drives singled out for unreliable operation, particularly on disk writes.

You should be able to find a non-Mitsumi drive for relatively cheap. With a little bit of work you should be able to get many models to live in desktop A1200 models, and of course for other machines they will mount in a standard drive bay. The Catweasel treats floppies in an odd fashion. Rather than calling your floppy DF0, the first drive is called TD0 for double-density (880k) floppies, and TH0 for high-density disks. Reading PC disks requires the use of PD0 and PH0, accordingly. Aside from being a bit unconventional, it also clutters your Workbench with "bad disk" icons. In speed tests, the Catweasel performed substantially quicker on HD floppies than an A4000 HD drive (because it can read at full speed), but slightly slower on 880K disks. Because the Catweasel requires drivers it is not a drop-in replacement for DF0, although you can run a patch to allow the Catweasel to act as a bootable drive. Still, hard-coded programs seeking DF0 or particularly nasty copy-protection routines will not be happy with your Catweasel drive. The Catweasel has some handy bonuses. One is the ability to add a 5.25 inch floppy, which has a very nice 1541 filesystem (for access to C64 disks) as well as the ability, with some extra tinkering, to read Amiga, PC, Atari and Apple floppies.

However, since most PC 5.25" disks cannot read the back sides of single-sided 8-bit disks properly (due to index-hole issues) you may need to make a modification to whatever drive you pull off the scrap heap. Also, for 3.5" floppies in high-density mode, there is a custom format called "XTRA" which allows over 2 megabytes on a standard HD floppy disk, but since nothing but another Catweasel can read it this would primarily be for personal archiving. Because it's not a DFO replacement, the Catweasel isn't a perfect option for Amiga owners, but with the redesign and the drop in price since last year, it's become a very attractive option. ■

Jason Compton

CATWEASEL Mk II

System Requirements: A1200 with 22-pin clock header, any Amiga with IDE interface

Ease of use The unorthodox floppy handling takes some getting used to	81%
Performance A solid piece of hardware	90%
Value for money Much better than digging up a real Amiga HD floppy	93%

OVERALL The best overall way to improve your floppy capabilities — **89%**

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Blizzard 603e Power Board
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A1500/2000

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PD.net

PD.net

Dave Stroud: has modem, will download. Here he is with another selection PD and shareware available from the Internet.

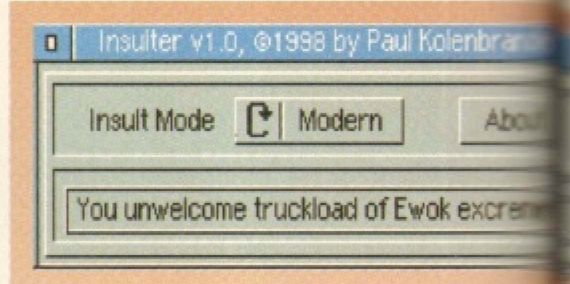
BallMaster (demo 1)

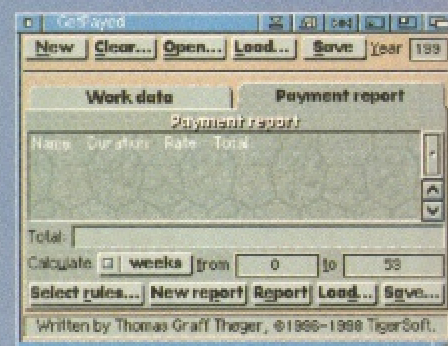
Type: Game
Available from: Aminet: game/demo/BallMaster.lha
Size: 103k
Requirements: Any AGA or ECS Amiga. BallMaster

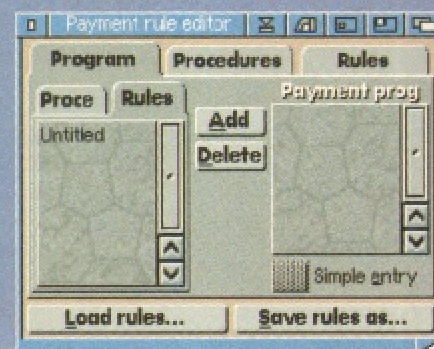
Master of the balls, or just a load of the same? Well, there's a lot of them (balls, that is). You have to rotate wheels with holes in to get the balls to drop into the holes. You need to fill each wheel with four identically-coloured balls to turn a little light in the middle of each wheel green (instead of red) and complete each level. Er, that's it. If all that sounded a bit uninspiring, then I guess we're on the same wavelength. You see, BallMaster isn't very interesting. It doesn't look attractive and doesn't sound attractive.

You load it up, and you see a bright yellow topaz font (did I mention I hated that yet?) on a black low-res screen telling you that "Autumn Design presents BallMaster... Demo Release One... Press mouse button to continue... (ESC to quit)". My gut feeling was to hit "Escape" there and then – to save myself from the despair that would usually follow such a bland introduction, but I thought:"No, wait a minute. There might be something to this game that I'm not expecting. Something truly awe-inspiring which will capture my attention. It would be wrong to judge a book by its cover," etc. I pressed the mouse button. Another screen of ghastly yellow Topaz! Aieeee! And this is the AGA version!?! I pressed it again, hoping that there would be something to reward my blind faith. A red screen with brown wheels and different coloured balls rolling backwards and forwards. Oh. I'm really sorry to have to say this, but as it stands at the moment,BallMaster just isn't very interesting. Yes, it is playable (in that it's not broken), but that's about all. With an overhaul on the graphics, sound and presentation, it would stand a much better chance of keeping me occupied for more than a few seconds.

However, it is only a demo release,so it may well improve beyond all expectations. Don't let me put you off from making those improvements, Damir – I'd like to see this game in its final incarnation and be proved wrong! ★★







GetPayed 1.1

Type: Payroll calculator
Available from: Aminet: biz/misc/GetPayed.lha
Size: 230k
Requirements: MUI 3.3+, Listtree.mcc 17.0+, reqtools.library 38+.

Do you spend countless hours at work these days? Don't know whether you're coming or going, clocking out for your lunch break, tea break, or because you've finished for the day? Forgotten when and how much you're due to get payed each month? Wish you didn't have to work at all? GetPayed won't tell you if you're in the wrong job, but it might prove to be an invaluable piece of software for those of us who work on a schedule with varying rates of pay depending on the time of day/week.

By tapping in all the information about how long you've worked each day and specifying the rules which determine how much you should be payed per hour depending on when you work, GetPayed will do all the hard work for you in working out just how much lolly you're entitled to.

The main project window provides tabs for every month of the year, and reports can be generated for a specifiable range of weeks or months. Calculation is done via a programmable set of rules, and is therefore much more flexible than it first appears. Rather than specifying one or two fixed rates of pay, it is possible to specify different rates for different times of day, days of the week, even specific days of the year. GetPayed features an API which will allow further expansion in the future. For example; currently, reports can only be saved in GetPayed's unique format, or as plain text. Thanks to its API, different file formats as well as new rules for pay calculation can easily be added to the program.

Reading the documentation is thoroughly recommended, as it will undoubtedly take a while to get used to the intricacies of GetPayed's workings – a short tutorial could really help out here. GetPayed's author isn't sure of the program's future, so if you use it, be sure you drop Thomas a line to let him know you're interested. ★★★★

Insulter 1.0

Type: Stress-reliever
From: Aminet:util/misc/Insulter.lha
Size: 21k
Requirements: A sense of humour?

If you know what it's like to get really annoyed with people on Usenet shouting, complaining, flaming or spamming in excess, you could well appreciate this little program. The first insult it threw at me when I loaded it up might not have been out of place in the Star Wars trilogy. Imagine Han Solo yelling, "You irresponsible stack of Wookie hair!" at Chewy. (He probably did at some point, it just didn't make it into the final cut). Not only does Insulter gladly hand out toilet-humour one-liners, it can do it in "Modern" or "Classic" tongues. "Thou bawdy sour-faced gudgeon! "Shakespeare it may not be, but a welcome reliever of frustration and source of small amusement it is. It's even got an ARexx port, so you can integrate it with your favourite Email or News software and dish out various insults on certain individuals who don't know when to shut up. Ah, what fun.

It's a shame that Insulter doesn't appear to come with datafiles which can be changed or added to, because as it stands, it will tend to repeat itself half the time rather than give you a truly wide variation of insults. Despite this, it did manage to come up with, "You Windows using crate of earwax," so the fact that it's based on an old MS-DOS program obviously didn't stop Paul from experimenting with new phrases.

Finally, Insulter will even use your Amiga to insult you audibly if you so wish, as long as you have the Amiga OS's "speech" facility. Quite why, only Paul knows. I know it's not the most earth-shattering of utilities to ever grace the Amiga, but it's fun, light-hearted and above all will at least bring a smile to your face. ★★★★

MUI CD Player 1.12

DOWNLOAD of the month

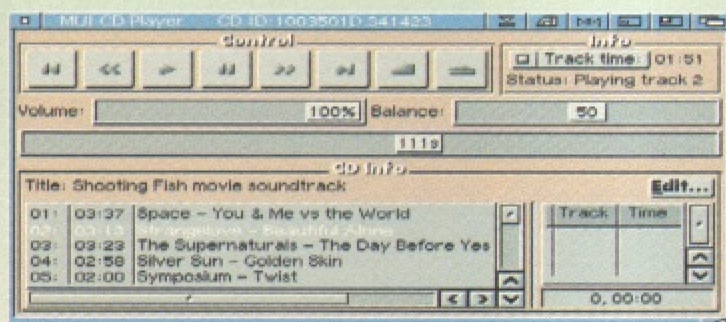
Type: CD Player
From: Aminet:disk/cdrom/muicd.lha
Size: 169k
Requirements: MUI 3.3, NList.mcc 0.48, ATAPI/SCSI/CD32 compatible CD-ROM.



If you haven't already got yourself a CD player for your CD-ROM drive (something which nobody should be without these days) then MUI CD Player is the first stop you should make. I won't say anything about it needing MUI, as that should be plainly obvious. Instead, I'll talk about the new features of version 1.12 like balance control, position slider (which makes skipping to a particular place in a track as easy as you could possibly want it) and a new library for ATAPI/SCSI devices.

An installer script has also been provided as from this release, and it makes setting up the program to work on your CD drive simply effortless, working flawlessly on my machine as soon as it had been installed. Lovely. The included CD Manager is also feature-laden whilst remaining intuitive, providing the ability to edit disc information, search through all or part of your CD collection for keywords and import files from other CD players, saving you typing in all that information a second time if you decide to move from your regular brand of CD player to this one.

The button images are just IFF brushes, so you can make your own if you don't like the look of the four sets provided in the archive, and a program can be saved for each CD, so that tracks are always played in a specifiable order. If there isn't a program specified, selecting the "Auto MakeProgram," "Auto Shuffle," and "Auto Play" options will play all tracks in a random order as soon as a new disc is inserted. With all the features of version 1.12, it's hard to spot any missing features that are desperately needed. It's all there, and a quick flick through the documentation is all you need to discover how to do anything which isn't immediately obvious. ★★★★★



Best of Aminet

Several small but useful tools have found their way onto Aminet this month, util/sys/QuickROM.lha (12k) being the first. This is one of those utilities which copies the Amiga's Kickstart into fast memory, and claims to speed up the O.S. as a result. Now on version 36.08, this is QuickROM's second Aminet release and sees the addition of a Workbench-friendly version which can be placed in the WBStartup drawer or double-clicked on to activate/deactivate the program at will. Due to the nature of QuickROM, it requires either an '040 or '060-equipped Amiga with a Memory ManagementUnit (MMU) to be of any use.

The second utility is util/misc/Skimmer.lha (84k) which provides another bonus for your system by searching for libraries that are no longer required by the programs that you use. These shared libraries can build up quickly on a system where lots of different programs are installed and deleted on a regular basis, and it's hard to tell which of them are still required at a later date. Skimmer makes a list of all these libraries, then scans all files on your hard disk that look like executables. When it's finished, you are presented with a list of all libraries that may not be required any more. You can then choose to delete or archive them (the latter of which is the safer option) in order to tidy up your libs: assign.

Two more "simple but effective" tools are util/wb/FClock.lha (15k) and util/wb/WarpWB12.lha (19k). The former is yet another Workbench clock, but deserves a mention for not being bloated by seemingly infinite options. Simple, but effective – just like WarpWB, which helps to keep your Workbench screen tidy by closing old windows when you open new ones. Finally, mods/mpg/breakfast.lha (852k) seems like an apt tune at the time of writing. This 56 second long mpeg tune from Northern California's Experimental Media Research Laboratory features piano, bass, drums and trumpet and probably wouldn't sound out of place in a jazz club. Mmmm, great.

PD.post

It's Richard Drummond, with another luvv-erly bunch of useful PD games and utilities available on disk.

PD.post

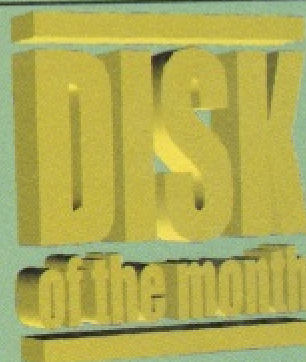
Chaos V3.3

Type: Graphical/mathematical application

Available from: Online PD, Unit 5, Embassy Building, 51A Piercefield Road, Formby, Liverpool L37 7DG

Tel: 01704 834335

Price: (3 disks) £2.25 plus 75p P&P per order



By Martin Pfingstl, purports to be the last word in chaos and fractal exploration. Fractals are experiencing something of a renaissance – thanks to the prevalence of fast CPUs and colourful graphics displays – and ChaosPro is the Amiga's offering as a state of the art tool for navigating this complex domain. It is aimed as a rival to tools like FractInt on the PC (which has now been ported to the Amiga), but outclasses this product easily.

What is immediately mind-boggling about ChaosPro is its sheer scope and power – and the fact that it is freeware. It boasts features like full multi-windowing and multi-threading; the ability to scroll and zoom images while they are still being rendered; a formula editor; 3d transformation and animation tools; 24bit IFF and graphic card support; and an ARexx interface. It can generate Julia and Mandelbrot sets, Lyapunov Spaces, Plasmas, Bifurcation Diagrams, Lindenmayer Systems and much more.

Although ChaosPro is not the fastest fractal generator on the Amiga, the fact that it is multi-threaded makes this fact irrelevant. It is quite possible to pin-point and blow up an area while it is still being drawn or even to work on a completely different image at the same time. This makes ChaosPro a very efficient package to use. The only real limit is your machine's processor power and memory and hence this program would benefit considerably from a high specification machine. The minimum requirements are an 020 with FPU and 2Mb of memory, but this is unrealistic to perform anything useful.



ChaosPro's user interface is a standard GadTools one, which is clear but tortuous to use. For a program of this intricacy, a more advanced GUI would be appropriate: it is just too difficult to navigate your way around the maze of options windows and tools docks. ChaosPro has so many features, that finding the one you want can be a chore.

Nevertheless, ChaosPro is excellent. It is one of those pieces of software that you will tinker with for ages. If you have an interest in mathematics, would like to create some stunning images, or just want something to show off the hardware power of your Amiga, this is the program for you. ★★★

EdPlayer V2.1

Type: Module player utility

Available from: Underground PD, 54 Carmania Close, Shoeburyness, Essex SS3 9YZ

Tel: 01702 295887

Price: £1.50

EdPlayer is module player for NoiseTracker, Pro Tracker or MED modules. Visually it looks like a CD player and this resemblance extends to the interface as well.

The version I was supplied with lacked any documentation. This is not too much of a problem since anyone can operate a CD player and the program has online help, but the user is left with no information on EdPlayer's ARexx port. Ed player opens only on a PAL screen, which is limiting, but it



does have lots of other options, e.g., controls for MIDI, Filters, Tempo and programmability.

Despite its limitations EdPlayer is a visually attractive and useful way to play your collection of modules. ★★★



Galaxians V1.3

Type: Shoot'em up game

Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester, M26 2SH

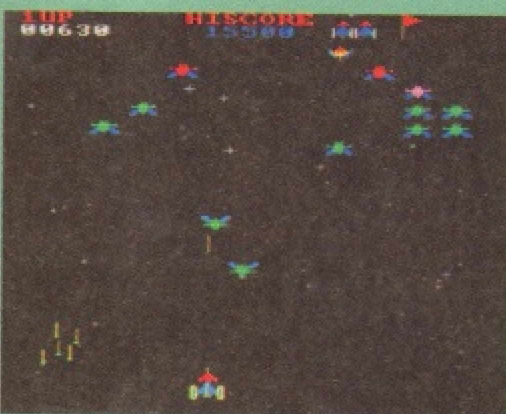
Tel: 0161 723 1638

Price: £1 plus 75p P&P per order

Most of our readers should be old enough to remember Galaxians in the arcades, so this title needs little introduction. Galaxians V1.3 by Kevin Gallagher is a near perfect conversion – graphically and sonically – of that old coin-op classic. Enough said, really.

My only complaint is that, because it is written in AMOS, it will not multitask with the rest of your system. It would have been a great little diversion to occupy time when you were waiting for your mail to download or for that latest C behemoth to compile – but sadly no, this is not possible. Still, it's a good game.

If you want a dose of highly playable nostalgia, you could do far worse than get a copy of Galaxians. ★★★★



Assimilation

Type: Shoot'em up game

Available from: Online PD, Unit 5, Embassy Building, 51A Piercefield Road, Formby, Liverpool L37 7DG

Tel: 01704 834335

Price: 75p plus 75p P&P per order

The creators of this game, Fullspeed Creative Development, were also the creators of the commercial game Virtual Karting. This may give you some idea what this, a freeware effort, is like. Assimilation is a sideways scrolling shoot em' up with all the usual cliches of the genre. There are attack waves, power ups and end-of-level baddies; but no plot.

Graphically the game is unimpressive. The uninspired and drab use of colour makes it look like it is running on a Commodore 64. In fact, this 8-bit feel extends to the gameplay as well. The only novelty is the unusual addition to the control method of your spaceship: instead of just moving your ship up or down when the joystick is pushed up or down, the pitch of your ship increases and decreases as well.

On the whole Assimilation is a competent, but unremarkable game. At this price, though, it is still worth a look. ★★★

FotoFit 98

Type: Novelty

Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 2SH

Tel: 01617 231638

Price: £1 plus 75p P&P per order

CU's deputy Editor, Andrew Korn, was fascinated by this program. He would claim that it is because he is an artist, but I think it is just that he hasn't grown up yet.

FotoFit allows you to emulate the identi-kit process used by the police to identify criminals. That is, you can build up an image of a face using standard parts or features. For example, you may choose a particular head shape, hair style, nose shape, etc. from a supplied set. That is just about it – not stunningly useful, but amusing.

There are a few glaring omissions with the package: although it allows you to print out your efforts, you cannot export them as picture files. Also, a few standards tools, such as resizing and stretching of images for example. would be a bit more useful. Nevertheless, if you are in need of a cheap laugh, then get yourself a copy of FotoFit and make some unflattering likenesses of your mates. ★★★



MajorBank V1.91

Type: Business Application

Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester, M26 2SH

Tel: 0161 723 1638

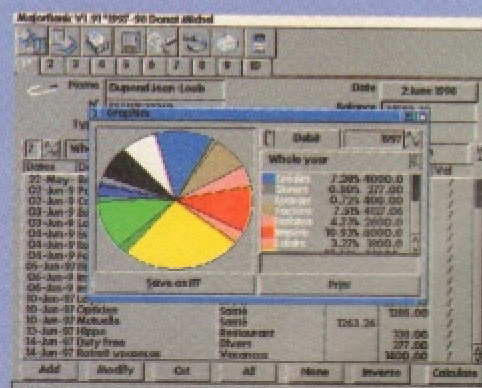
Price: £1 plus 75p P&P per order

If your cash flow is a catastrophe and your fiscal planning a fiasco, why not let your Amiga take care of your budget? MajorBank is designed for just this purpose: it's an accounts package to help you manage your personal finances.

The metaphor that MajorBank employs is similar to that of Digita's Money Matters. You can set up a number of accounts, say, one for your current account, one for your Visa, another for a loan, etc. You can then manually enter transactions for each debit or credit to the accounts; or you can define automatic transactions which are applied at regular intervals (like salaries, direct debits, etc). To each transaction you may apply a category to help you see where your money is going. MajorBank also offers tools like the cutting, pasting, searching, sorting and graphical display of transactions. It allows the printing and the importation and exportation in various formats of data. This freely distributable demo version is limited to 100 transactions. The full version is available from the author, Donat Michel, for $20 (about £12.50).

The user interface of MajorBank is well thought out and all the program's functions fall readily to hand. The GUI is realised in the ClassAct style, which is none too pretty, but features like its adaptiveness to font and screen size mean it is a big improvement over Money Matters. The account transactions are all shown in one listview on a backdrop window; access to any of the other (up to 10) accounts that you may have open is via a tab gadget. A consequence of this is that you may view only one account at a time, whereas I would have preferred a multi-windowed approach.

MajorBank will not make you a millionaire but remains a useful application. ★★★★



Art Gallery

Are you a Digital Dali? Computer Carravagio? Send your pics to:
Art Gallery, CU Amiga, 37-39 Mill Harbour, Isle of Dogs, London E14 9TZ.

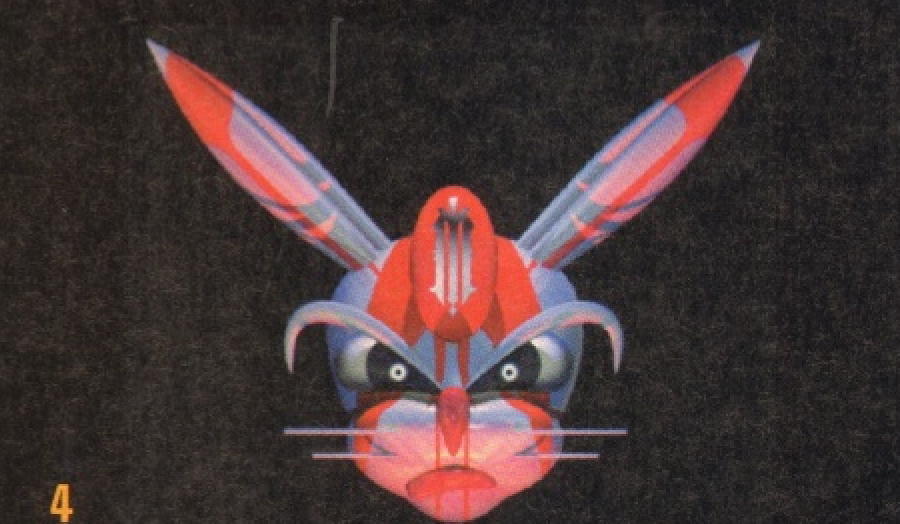


See your work in print... and win a print, too!

Each month we will declare one picture in the Gallery to be picture of the month – and if it is yours, we will send you a print of your work output to an ultra high quality IRIS printer on glossy paper (that's around 25-30 quid from a print shop to you, guv') – you will never see your work looking so good! If you want to enter a picture into Art Gallery, either email it to artgal@cu-amiga.co.uk or post in on disk to our normal address, marking the envelope Art Gallery. We recommend PNG format as it saves a lot of disk space, but alternatively GIF or IFF are fine.
* 'JPeg' drops image quality so avoid where possible – also never use for images with 256 or fewer colours.









1. Ghoul by Tony Gascoigne
This gruesome picture is the result of some tinting and tweaking in Photogenics, the curtain rendered in Cinema 4D. He says the face is a digitised picture of one of his own models, but clearly not the type with a long career sharing the catwalks with Kate Moss.

It isn't often enough that we get pictures that are this atmospheric, the limited palette gives a moody lighting straight out of Ridley Scott. Nice Work Tony!

2. Baby by Daniel Canfora
Daniel tells us he felt compelled to do something after reading the comments from Cedric Moorhead in the June issue. He agrees that there has been some pretty average work in the Art Gallery of late, but says that Cedric's work is over processed and no better!

Daniel did the picture mostly with ImageFX, which he describes as "absolutely amazing". I like the contrast between the rendered backdrop and hand drawn foreground characters, the smoothness of the background contrasting nicely with the raw lines of the cartoon characters. The reflection – inverted, semi-transparent and subjected to ripple – ties the two elements together nicely.

3. Arm by Mose Pudny
Crazy name, crazy picture. Another response to the far too lippy Cedric Moorhead, this one reminds me of the heavy pastels of Italian designer Lorenzo Mattoti, although Mose's use of colour seems a little less well thought out. The starkness and surrealism of the colours in the weird arm shape at the front are not all that well followed through in the background.

This one was drawn using more paint packages than most people ever see. Photogenics, Art Effect and ImageFX did the bulk of the work, but Mose admits to having added "a little bit of nice polish" with Photoshop on a Mac at work.

The pastel like texture to the image is a result of Art Effect's natural media tools – the program allows you to define the parameters of your own brush, making it excellent for producing images that have some texture to the marks.

4. Bunny by David Hinchcliffe (Shadow)
Seems to be some kind of crazed psychopath robot rabbit. Nice textures and detailing, solid graphic design. Done in Lightwave on an A4000t equipped with an '60/50 and a 200MHz PPC 128MB, Picasso IV and a toaster. Now there's a nice hardware set-up for rendering on. Pity Lightwave doesn't run on the PPC!

5. Boing CU Amiga
Reader Jeroen Petrick from Amsterdam has been rendering boing balls lately, and contributed this special custom CU Amiga one for the Art Gallery. Now there's a man who knows the sneaky way to get his picture printed!

The picture was rendered in Cinema 4D Pro 4.0 and post processed with ImageFX 3.1. As Jeroen admits the texture on the metal bars is too grainy, but he says that the render took seven and a half hours as it was, so he didn't fancy turning the anti-aliasing way up! The logo could have benefited from a nice quick antialias before it was used as a texture, and you can actually cheat in the case of something like those metal bars by applying low levels of localised blurring in ImageFX.

Please note, nice as Joroen's pic may be, requests to covermount CU Amiga Ping-Pong balls will be ignored.

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User Groups

Let our international user-group directory put you in contact with other Amiga users in your local area. To add a new group to the list, just fill in the form on the opposite page.

Amiga Christchurch Inc.
Location: Christchurch NewZealand
Contact: Annette Leonardo
Telephone: +64 03 3390232
Meeting times: Second Tuesday of every month 7:30 pm.
Places: Shirley Community Centre, Shirley Rd.
Address: ACI. PO Box 35-107, Christchurch, NZ

Amipack
Location: World Wide – An Amateur Radio Amiga Group
Contact: Paul Carson
Email: DJKus@CarsonJ.clara.net
Telephone: N/A
Meeting times: TBA
Places: On the Amateur Radio Packet Network.
Address: 10 Belgravia Avenue, Bangor, Co.Down, N.Ireland BT19 6XA

Waaslandia
Location: Belgium
Contact: Tony Mees
Email: waasland@glo.be
Telephone: +32 (0)3744 1319
WWW: http://titan.glo.be/~waasland
Meeting times: 12 meetings per year.
Places: We have 6 Amiga clubs in Belgium:- Antwerpen; Merksem; Aalst; Mechelen; Turnhout; St-Niklaas
Address: Lepelstraat 11, 9140 Steendorp Belgium

Wigan/West Lancs Amiga User Group
Location: Wigan/W Lancashire
Contact: Simon Brown/Ralph Twiss
Email: ssamiga@warp.co.uk
Telephone: Simon; 01257 402201 or Ralph; 01695 623865
WWW: www.warp.co.uk/~ssamiga
Meeting Places:St Thomas the Martyr School Hall, Highgate Road, Up Holland, Lancs
Address: 79 Woodnook Road, Appley Bridge, Wigan, WN6 9JR & 32 Higher Lane, Up Holland, West Lancs

Alpha Software
Location: Newcastle, UK
Contact: Gareth Murfin
Email: gazy@globalnet.co.uk
Telephone: 01670 715454
WWW: http://www.users.globalnet.co.uk/ ~gazy/
Meeting times: 8 - 9pm.
Places: IRC #AmIRC GalaxyNet
Address: Alpha Software. Gareth Murfin.113, Cateran Way, Collingwood Grange. Cramlington Northumberland. NE23 6EZ. UK.

Convergence International
Location: International
Contact: Ben Clarke
Email: enquiries@convergence.eu.org
Telephone: 0956 985959
WWW: www.convergence.eu.org
Meeting times: 8pm (GMT), Wednesdays and Sundays
Places: #converge (IRCnet)
Address: 49 St. Gilberts Road, Bourne, Lincs, United Kingdom

Amiga Club Genk (ACG)
Location: Genk, Belgium
Contact: Bart Vanhaeren
Email: amiga.club.genk@skynet.be
WWW: http://users.skynet.be/amiga/acg
Meeting times: every 1st Sunday of month
Places: Cultural Centre of Genk, meeting room 1
Address: Weg Naar Zwartberg 248 B-3660 OPGLABBEEK, BELGIUM

Relax ITC
Location: Poland
Contact: Shandor
Email: shandor1@polbox.com
Telephone: +48-91-357184
Meeting times: TBA
Places: unspecified
Address: ul.Maciejewicza 1/27 71004 Szczecin 10, Poland

National Capital Amiga User Group
Location: Washington D.C. USA
Contact: Fabian Jimenez
Contact by: Phone (please send us your phone number... Fabian)
Telephone: 301/924-0750 (10pm – 1am EST)
Meeting times: 12:00 noon EST
Places: Dolly Madison Library
Address: Fabian Jimenez, NCAUG PO Box 12360, Arlington, VA 22209 USA

Amiga World Special Interest Group
Location: Athens, Greece
Contact: Menis Malaxianakis
Telephone: 301 - 9026910/9012019
WWW: http://www.compulink.gr/amiga
Meeting times: 5pm Saturdays Places: Athens
Address: Menis Malaxianakis, Giannitson 11str. 17234, Dafni Athens. Greece

Amiga Forever!
Location: Hampshire
Contact: Stuart Keith
Telephone: 01703 861842 all day
Meeting times/places: TBA
Address: 101 Ewell Way, Totton, Southampton, Hants S040 3PQ

Mutual Amiga Computer Enthusiast
Location: Beresfield, Newcastle, Australia
Contact: Ken Woodward
Email: ken@rich.com.au
Telephone: after working hours
Meeting times: 7pm 1st & 3rd Wednesday of month
Places: Beresfield Bowling Club.
Address: 59 Carnley Avenue, New Lambton, Newcastle, NS Wales Australia

Kickstart, Surrey Amiga User Group
Location: Surrey
Contact: Rob Gilbert
Email: gilbie@arrakis.u-net.com
Telephone: 01932 875336
WWW: www.arrakis.u-net.com
Meeting times/places: Monthly (TBA)
Address: 10 BRox Road, Ottershaw, Surrey. KT16 OHL

Canberra Amiga Users Society Inc
Location: Canberra, ACT, Australia
Contact: Alex Cameron (Secretary)
Telephone: (02) 6286 2966
WWW: http://www.spirit.net.au/~jamesm /CAUS/
Meeting times: 2nd Thursday of the month from 8pm.
Places: Woden Town Centre Library (Entry – The Elm Cafe).
Address: Canberra Amiga Users Society PO Box 596, Canberra ACT, 2601, Australia.

XCAD User
Location: N Ireland
Contact: Tony McGartland
Telephone: 01662 250320 (after 6pm)
Meeting Times/Places: TBA
Address: 11 Lammy Drive, Omagh, Co Tyrone BT78 5JB

ICPUG SE Computer Club
Location: Biggin Hill, Kent
Contact: Len Beard
Telephone: 01689 813 616
Meeting times: Thursdays 8-10pm
Places: Biggin Hill (phone for details).
Address: 56 Rookesly Rd, Orpington, Kent. BR5 4HJ

Colchester Amiga Forum
Location: Colchester, Essex
Contact: Patrick Mead
Telephone: 01206 212 864 (Mon-Fri
Email: pjmead@Hotmail
Meeting Times/Places: TBA
Address:9 Windmill Ct, Copford, Colchester, Essex. CO6 1LH

Deal Amiga Club
Location: Deal, Kent
Contact: John Worthington
Telephone: 01304 367 992
Meeting times: 7pm Fridays.
Places: St John Ambulance Hall, Mill Hill, Deal, Kent.
Address: 100 Trinity Place, Deal, Kent

Amiga Service
Location: Charleroi, Belgium
Contact: Hoet Raphael
Telephone: 003271 458 244 (9am-6pm)
Meeting times/places: TBA
Address: Rue Du Nord 93, 6180 Courcelles, Belgium

Extreme Coders
Location: Sheffield
Contact: Mark Johnston
Telephone: N/A
Meeting Times/Places: Contact for details
Address: 1st Floor, 145 Upperthorpe Rd, Upperthorpe, Sheffield. S6 3EB

Stoke Amiga User Group
Location: Stoke on Trent, Staffs
Contact: Paul Shelley
Telephone: 01782 833 219
Meeting Times: 7.30pm Wednesdays
Places: Jester Public House, Biddulph Rd
Address: 19 Houldsworth Drive, Fegg Hayes, Stoke on Trent, Staffs. ST6 6TG

Amiga Falcons
Location: Malmo, Sweden
Contact: Carl-Johan Rudnert
Telephone: +46 40 932212
WWW: http://www.algonet.se/~mcisaac/amiga
Address: Amiga Falcons, c/o Carl-Johan Rudnert, Veberodsgatan 9, SE-212 28 Malmo SWEDEN

Finnish Amiga Users Group
Location: Finland
Contact: Janne Siren
WWW: http://batman.jytol.fi/~saku/
Address: Janne Siren Oravamaentie 2 F 17 02750 Espoo. FINLAND

Amiga Computer Enthusiasts of Elkhart, Indiana
Location: Northern Indiana, USA
Contact: Gregory Donner
Telephone: (219) 875-8593 (after 5pm)
WWW: www.cyberlinkinc.com/gdonner/ace.htm
Meeting times: Second Saturday of the month
Places: 26728 Hampton Woods Dr., Elkhart, IN 46514
Address: 60300 Pembrook Lane, Elkhart, IN 46517-9167. USA

Photogenics & ImageFX Users
Location: Stanford-Le-Hope, Essex
Contact: Spencer
Telephone: 01375 644614 (9am-9pm)
WWW: http://web.ukonline.co.uk/spencer.jarvis/contents.html
Meeting times/Places:TBA
Address: 44 Brampton close, Corringham Stanford-le-Hope, Essex. SS17 7NR

No Specific Name
Location: Greenford Community Centre, London
Contact: Richard Chapman
Telephone: 0181 998 8599 5pm-8pm week, all day at weekends
Meeting times: 7pm-10pm Thurs
Place: Greenford Community Centre
Address: 96 Meadvale Road, Ealing, London, W5 1NR.

AmyTech Amiga Users Group
Location: Dayton Area, Ohio. USA
Contact: John Feigleson
Telephone: (937)667-9541 After 6pm EST
WWW: www.coax.net/people/erics/Amitech.htm
Meeting time: 3rd Saturday of the month – 1:30pm
Places:Huber Heights Library
Address: AmyTech, P.O. Box 292684 Kettering, OH. 45429-0684

South West Amiga Group
Location: South West England
Contact: Andy Mills
Telephone: 01275 830703 (7-10.30pm weekdays, anytime weekends
Emaol: swag@wharne.u-net.com
WWW: http://www.wharne.u-net.com/swag/
Meeting Times/Places: Every 1st Thursday of the month at the Lamb & Flag, Cribbs Causeway, Bristol from 8:30pm (contact to confirm venue first)
Address: 51 Wharnecliffe Gardens, Whitchurch, Bristol. BS14 9NF

Tuggerah Lakes Computer Users Group
Location: Central Coast, NSW. Australia
Contact: Darrell Keirnan
Meeting Times: 1st & 3rd Thursday of every Month
Places: Berkeley Vale Public School 7.00pm
Address: PO Box 659, Toukley. NSW. Australia 2263

Tasmanian Commodore Users Association Inc
Location: Hobart, Australia
Contact: Eric Fillisch
Telephone: (018) 120 787
Meeting times: 7:30-9:30pm, 3rd Wednesday of the month
Places: Contact for address
Address: GPO Box 673, Hobart GPO TAS 7001

University Place Commodore Home Users Group
Location: Tacoma, Washington USA
Contact: Jim McFarland
Telephone: (253) 265-3478 evenings
WWW: http://www.nwlink.com/~red-beard/upchug/
Meeting times: 4th Thursday evening of each month
Places: Fircrest Community Center, Tacoma, WA
Address: PO Box 11191, Tacoma, WA 98411-0191. USA

R.A.V.A.
Location: Alkmaar, the Netherlands
Contact: Roland de Herder
Telephone: Wanna call international? Ask me for my number.
WWW: http://www.cybercomm.nl/~macron/rava.html

Meeting times: 12 times a year
Places: Alkmaar
Address: R. de Herder, Ewislaan 35
1852 GM Heiloo, The Netherlands

Virus Help Team – Norway
Location: Norway
Contact: Helge Syre
Telephone: +4790175626
WWW: http://home.sol.no/~syre
Address: Roeyrvikvegen 40
N-4280 SKUDENESHAVN

CWCCC
Location: West Midlands
Contact: Luke Stowe
Telephone: 0966 467596 (after 10am)
WWW: None yet
Meeting times: 8pm-11pm
Places:Earlsdon Methodist Church
Address: 9 Trossachs Rd,
Mount Nod, Coventry,
CV5 7BJ

Amigart
Location: Istanbul
Contact: Guvenc KAPLAN
Telephone: 00902163020915
WWW: http://www.medyatext.com.t r/amigart
Meeting times: Two a month
Places: Anywhere
Address: Ortabahar sok. No:1 Hayat apt. d:2, 81080 Goztepe-Istanbul
Turkey

Commodore Computer User Group Queensland
Location: Brisbane, Australia
Contact: Ronny Blake
Telephone: (07)32871790
WWW:
http:www.powerup.com.au/~ rastlin
Meeting times:1st Tues of month, 7-9pm & 2nd Sun of month 12pm to 4pm
Places:St Laurence's College,
82 Stephens Rd, S Brisbane. Qld.
Address: 3 Conoble Court, Eagleby, Gold Coast, Queensland, 4207. Aust

Ayrshire Amiga Society
Location: Irvine, Ayrshire, Scotland
Contact: Maitland or Dale
Telephone: 01292 267959 or 01294 275535
Meeting times: Wednesdays
Places: Annick Community Centre, Irvine.
Address: 49 Belmont Road, Ayr
Scotland. KA7 2PE

West London Computer Club
Location: West London
Contact: Alan Paynter
Telephone: 0181-932-1856
Meeting times:1st and 3rd Tues of month
Places: Duke Of York Public House
Address: 19 Harlech Tower, Park Rd East, Acton, London, W3 8TZ

Dublin Amiga Users Telephone Helpline
Location: Dublin, Ireland
Contact: Eddie McGrane
Telephone: +353-01-6235903
WWW:
http://www.ireland.amiga.org/helpline.ht ml
Meeting times: Anytime (24 hrs.)
Address: 27 St. Finians Green, Lucan, Co. Dublin, Eire

Central Arkansas Amiga Users Group
Location: Little Rock, Arkansas
Contact: Tim Grooms
Telephone: 501-851-7418
WWW: http://www.concentric.net/c aaug.html
Meeting Times/Places: Monthly TBA
Address: 14 Hickory Lane, Maumelle, AR 72113. USA

Stoneybridge BBS
Location: Dorset, UK.
Contact: Ozz
Telephone: 01202 679158 (10:30pm-6am GMT)
Address: 50 Junction Rd, Hamworthy, Poole, Dorset. (c/o NBI.UK.)

Amiga User Group of Western Australia
Location: Perth, Western Australia
Contact: Arthur Rutland
Telephone: 08 93641717
Meeting times: 2nd Tues of month at 7pm
Places:Curtin University
Address: 31 Chaffers St, Morley
Western Australia, 6062

Amiga Computer Group
Location: Umeå, Sweden
Contact: Martin Sahlén
Telephone: +46-(0)90-24816 (24 hrs)
WWW: http://www.amiga-cg.se
Meeting times: Tuesdays 19:00
Places: Kafé Station, Umeå
Address: Skolgatan 14, SE-903 22 UMEÅ. Sweden

Huddersfield Amiga Users
Location: Huddersfield, W Yorks
Contact: Geoff Milnes
Telephone: 01484 543534
WWW: http://www.geemil.demon.co.uk
Meeting times: 7.30pm onwards
Places:Commercial Inn, Market St,Paddock Huddersfield.
Address: 6 Ochrewell Avenue, Deighton, Huddersfield, W Yorks.

Highland Amiga User Group
Location: Highlands, Scotland
Contact: Tommy MacDonald
Telephone: 01667 404757 Anytime
WWW: http://azone.prohosting.com
Meeting Times/Places: TBA
Address: 7 County Cottages, Piperhill, NAIRN, Scotland. IV12 5SE

Team Amiga
Location: Worldwide
Contact: Gary Peake
Telephone: 1 281 350 2194
http://www.wans.net/~gpeake/links.html
Meeting times: Daily
Places: All Nets and IRC
Address: 19723 Teller Blvd
Spring, Texas USA 77388

Knox Computer Club
Location: Galesburg, IL. USA
Contact: Mitch Durdle
WWW: www.galesburg.net/~kcc
Meeting times:
First Tuesday of Month 7pm
Places: 695 N Kellogg Galesburg, IL (in the auditorium)
Address: Knox Computer Club
1003 East Fifth Ave.
Monmouth, IL 61462
USA

AmigaTCS
Location: Columbia Missouri
Contact: Terry Booher
Telephone: (573) 817 2948
Meeting times: 7pm 2nd tues of month
Places: TBA
Address: 115 West Phyllis Avenue
Columbia MO, 65202
USA

South West Amiga Group – Sydney (SWAGS)
Location: Campbelltown, Sydney, Australia
Contact: Mark Vine
Telephone: (02)46311801 After 7pm
WWW: None yet
Meeting times: 7pm-10pm 2nd & 4th Wed of every month
Places: Airds Community Centre, Riverside Dr, Airds
Address: 11 Kennedy Grove, Appin, N.S.W.
Australia 2560

Computer club Aktief
Location: Lelystad, the Netherlands
Contact: Ji Yong Dijkhuis
Telephone: +31(0)320 241741 (not after 23:00 CET)
http://mcs.nl/aktief/amiga/amiga.html
Meeting times: Every monday 19:30 till 23:00
Places: Buurthuis de Krakeling (same as the postal address)
Address: Computer Club Aktief
p/a Buurthuis de Krakeling
Fjord 155
8224 DJ
Lelystad. The Netherlands

Medway & Maidstone Amiga Collective
Location: Medway & Maidstone
Contact: David Prudence
Telephone: 0961 809466
Meeting times/places: TBA (phone for details)
Address: 34, Norman Rd, Snodland, Kent ME6 5JD

SOGA – Si Otro Grupo Amiga
Location: Manresa-Torrelavega-Navarra (Spain)
Contact: Santiago GutiÈrrez CortÈs
Telephone: 942 888 248
WWW: http://personal.redestb.es/sguti
Meeting times/places: TBA

Bodmin Amiga Users Klub (bauk)
Location: East Cornwall
Contact: Nick
Meeting times/places: Bodmin or Pelynt (TBA)
Address: Croft Cottage
Jubilee Hill
Pelynt, Looe
Cornwall
PL13 2JZ

The PIE BBS
Location: Dunstable, Beds
Contact: Carl Moore
Telephone: (01582) 606179
WWW: www.boghole.demon.co.uk/pie/
Meeting times: 10:30pm - 7am (Call between the specified hours only, and make sure you call with ya modem!)
Address: n/a

The Other Realm
Location: England
Contact: Peter Luckhurst
WWW: http://www.geocities.com/holly-wood/7440
Meeting times/places: TBA
Address: Peter Luckhurst
16 South Way
Shirley
Croydon
Surrey
CR0 8RP

2260 Designs
Location: Cyberspace
Contact: Chris Korhonen
Telephone: n/a
http://www.users.zetnet.co.uk/korhonen
Meeting times: Sat-Sun 8pm
Places: irc.pureamiga.co.uk #E2260
Address: n/a

Club De Usuarios Amiga Zaragoza
Location: Zaragoza, Spain
Contact: Carlos Iranzo
Email: cuaz@arrakis.es or ib308295@public.ibercaja.es
WWW: biosys.net/cuaz
Meeting times: 5-8 pm Thursdays, 10:30am-2:30pm Sundays
Places: Alferez Rojas 14, 50010 Zaragoza
Address: Apdo. 246, 50001 Zaragoza, Spain

Backwoods BBS
Location: Inverness, North Scotland
Contact: Lewis Mackenzie
Telephone: +44 (0)1463 871676, 24Hrz
WWW: http://www2.prestel.co.uk/back-woods/

SEAL (South Essex Amiga Link)
Location: South Essex
Contact: Mick Sutton (sicky)
Telephone: 01268 761429 before 9pm
WWW: http://welcome.to/seal
Meeting times/places: various/irc
Address: n/a

Send this form to: User Groups; CU Amiga, 37-39 Milharbour, Isle of Dogs, London, E14 9TZ.

Alternatively, fax it to: 0171 972 6755, or use the online version of the form which can be accessed from our website at: www.cu.amiga.co.uk This service is completely free of charge.

General Location: ______________________

Tel: ______________________

Postal Address: ______________________

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Meeting Times/Places:

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Group name: ______________________

Email: ______________________

Web site: ______________________

Contact name: ______________________

Preferred contact method.(please tick)

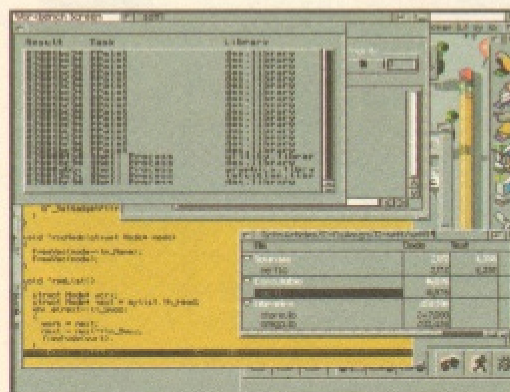
E-mail ☐ **Phone** ☐ **Post** ☐



Amiga Workshop



This month sees our new-look, Reviews Index update, and we say a tearful 'au-revoir' to the Scala tutorial (sniff).


Amiga C-Programming p78



Surf's Up p84



Techno Tragedy p106

Regulars

digital art

This month Andrew Korn tries to make something a little out of the ordinary from a digital camera.

PART 2

Digital photography is definitely a "happening" technology. It is also a to a certain degree a technology in search of a purpose. It's great for producing small images easily uploaded to the internet quickly and cheaply, as witnessed by all those who took in the heady World of Amiga show experience via the internet aided by the CU Amiga webcam. For producing finished presentation images, even the best cameras leave a little to be desired. Sure, the £1200 Olympus C1400L we looked at in the May issue produces pretty crisp output, but even in those rarefied heights, the end product still looks more like a holiday snap that an Ansel Adams photographic masterpiece. With the cheaper cameras the story is even tougher – poor lens quality, blurry images. Beyond hope? Not if you cheat.

Cheat!

Cheating is a great tradition in photography. The physical nature of traditional photographic processes is just asking to be messed about with, from the simple things like printing for a higher contrast through more complex chemical manipulations such as toning or cross-processing colour films (putting slide film in the negative film chemicals), a current mainstay of the fashion photography industry. With your picture in the digital domain, of course, the output from a digital camera is just begging to be messed with. You can alter pretty much every aspect of an image, warp it, transform it, change the colours totally or remove them altogether. Fine, if you just want to stick a picture of your dog on your homepage then fine, do it – just don't expect me to respect you in the morning.

While the world of holiday snapshots and magazine covers has gone largely colour, black and white is still very widely used in photography. Many photographers prefer black and white because they feel it gives a more realistic image than colour. This sounds pretty screwy when you think about it, but there is a solid logic behind this.

With a black and white image, the information which the eye receives is purely tonal. The eye is distracted by colour, as we use it to help identify objects. One of the main purposes behind photography is to show something in a way we do not normally see it. If you see a photograph of the sky in colour, your eye sees a lot of blue and your brain uses that as a clue to identify what you are seeing. This aspect of our neuro-optical development is a useful evolutionary trait, as it allowed primitive man to take to his heels when he saw a yellow and white striped sabre tooth tiger rather than having to study it carefully to determine what it was.

Con your brain

Showing something in tone without colour makes it harder for our brain to make a quick identification, and therefore lets us study the image undisturbed and hopefully learn something more about it. One of the most famous photographic movements was the f64 group, who concentrated on presenting mundane objects in a way that would encourage the viewer to see them as abstract objects as worthy of attention as any work of art; they found black and white work invaluable.

The first two projects show how you can take a photograph and manipulate it by converting it to black and white, gaining maximum impact through tone. The third project is a bit more drastic. An interesting final image does not have to start with an interesting original image at all – the heavy duty manipulation available through image processing software makes it possible to transform an image utterly. For similar reasons to those outlined above for black and white, some of the most effective colour photographs are those which utilise false colours. ■

Andrew Korn

Greyscale conversion

This first example shows how to do greyscale conversion properly – the key is not to trust what a grey scale converter gives you, it's bound to be less interesting than it could be.



Picture 1: The original Image, a 320 by 240 pixel digital photograph of a hand. Pretty dull at the moment, harsh colours and grainy.



Picture 2: Image Studio will convert the image to greyscale for you, but a much better final image can be achieved. The greyscale may be an accurate tonal representation of the original, but it doesn't look as good as it could.



Picture 3: A blur filter can remove some of the graininess inherent in digital and low light photography, while using Image studio's Focus convolve on the blurred image brings the crispness back. Be careful which convolves you use, Blur and Sharpen convolves are usually mirror image processes and they will not produce the best results.



Picture 4: Using the balance window, the contrast, brightness and gamma of the image can be modified. Bringing the contrast up ensures the image has plenty at each end of the tonal spectrum, although using Image Studio's Dynamic range functions can ensure that your whites are white enough. Playing with the brightness and gamma controls ensure that the tonal range is not compromised too much by the contrast controls; gamma is the key to shifting the broadest area of tonal range into highlights or shadow, whichever is appropriate. In this case the shadows and darker mid tones have been emphasised.



Picture 5: The final result!

Let's get weird

There is of course a lot you can do by getting away from the original colours of an image too. The following project was an attempt to use false colours to turn the face of my brother's cat into something altogether less worldly.

Picture 10: Calling on the power of Image FX3.0, I started of with the simplest of colour abstractions, negative. The Solarise effect causes a pseudo negative based on rolling rather than flipping the colour range. By repeatedly using the negative effect followed by a solarise, the colours move further and further from the original set, while retaining the shapes and structures.



Picture 11: The result. Without the colours as a guide, the close cropping makes it difficult to recognise the feline origins of the image.



Picture 12: Next, a little textural abstraction! The flowing lines of colour lent themselves to lines of texture, too. ImageFX's oil paint effect was used at a relatively low level, enough to roughen out the image and convert the impression of flowing cat hairs to an impression of flowing colours.





Picture 13: The final result, and not very cat – like any more!

The Software

Image Studio:
You can find a shareware version of this bargain-bucket image processing package on our CD this month in the magazine/DigitalART drawer. The full version with manual can be bought from LH Publishing, Telephone +44 (0)1908 370230

ImageFX3.0:
This is the program I would recommend to anyone taking Image processing really seriously. Call Wizard developments +44 (0)181 303 1800. Price is £179.99. There are also some very nice upgrade offers if you have an older version.









In the next example, we modify the colour of an image before turning it into greyscale. While this sounds crazy at first, there is a good reason for it.

Picture 6: The original picture. Cloudscapes are a common subject but rarely look so good in the final image. Photographs rarely capture the luminance of a bright sky, but by turning to black and white you can often convey the luminance through tonal character. Alfred Stieglitz used black and white film for photographing clouds for his series "equivalents", stating that the black and white representations of the chaotic shapes of clouds was a way of achieving an artistic abstraction which allowed a very simple emotional connection with the image.

Picture 7: A simple greyscale conversion slightly tweaked for an improved tonal range.

Picture 8: At an elementary level, a cloudscape contains blue skies and white clouds. If you darken all the blue, you can increase the contrast without removing any of the detail or tonal range in the white/grey highlights. This image is the result of tweaking the colours with an eye for the tonal range rather than the colours – looks a little like a sky from some Alien world right now.

Picture 9: The re-coloured image is converted to greyscale, giving an end result with rather more subtlety and character than the original greyscale image. The scene is moodier without overwhelming the detail, and the contrast is higher without badly affecting the dynamic range.

Amiga C Programming

This month your friendly neighbourhood programmer, Jason Hulance, has a little dabble with GadTools ListViews, and tinkers around with SetFunction().



This month we're going to draw a line under our HelloWorld paint program and call it a day. It's helped us cover an awful lot of topics, from basic windows right through to fractals and creating slave tasks. But it's no longer possible to squeeze interesting things into the framework of a paint program. Hopefully many of you have been inspired to start coding your own works of art, and hopefully they're not all paint programs, too! So what's up this month, then? A bit of naughty tinkering with the system, that's what. But first we must create a simple GUI for the tinkering program to use.

GadTools revisited

By now the use of GadTools should be fairly familiar. In fact, we've borrowed most of the first program, "setf0.c", from the first GadTools example constructed many months ago. However, this time we're creating a ListView gadget, which is used to display a (vertically) scrolling list of items. The key parts of the code should need no introduction:1) Open required libraries. 2) Get visual information for GadTools. 3) Start a GadTools gadget list. 4) Create a gadget and add it to the list. 5) Repeat 4) as necessary. 6) Open window and refresh gadgets. 7) Process IDCMP events, until the close gadget is clicked. 8) Cleanup: close window, free gadgets, close libraries. The interesting new bit is the creation of a ListView gadget (see the extract in Example 1). For the moment we've (safely) omitted the most important tag (GTLV_Labels), so the ListView will be empty, but everything else is in place. We've also slipped in a new way of specifying the window width and height when opening it: WA_InnerWidth and WA_InnerHeight. These are like the normal ways of doing it, except you give the internal width and height of the window (i.e., the size of the bit inside the borders). So, the actual window will be a bit bigger than the dimensions you give since it will have a title bar and other decorations.

Exec lists

The ListView gadget displays the data held in an Exec list. This is something we've not really met before, which is a little strange because it's one of the most common structures in the Amiga Operating System. Almost everything significant is held in some Exec list or other. From the list of open windows to the list of messages waiting at a message port. It's also one of the aspects of the Amiga OS that is Object Oriented, but more on that some other day... Back to the ListView: it displays the ln_Name field of the Node elements in the List. So we need to create a new Node for each thing that should be displayed, and add each one to a List. Example 2 shows the changes needed to make the ListView use our own list. The crucial point is the initialisation of the list before it's used. This is done by the function NewList() which comes from amiga.lib. A "struct List" must be setup in this way before it can be used as an Exec list. A node (i.e., a "struct Node") can be added to this list using AddHead() to add it to the front of the list, or AddTail() to add it to the end. Both these operations are very fast, since the Exec list is doubly-linked (it's just as easy to access the last element of the list as it is to access the first). So, what are we going to add to our list? This is where the naughty, tinkering code comes in. We're going to snoop on programs running the OpenLibrary() function, a bit like the wonderful SnoopDOS program.

Example 1

```
Setup our first gadget */newgad.ng_TextAttr    =
&topazFont;newgad.ng_VisualInfo =
vinfo;newgad.ng_LeftEdge    = MYGAD_LEFT + offleft;
newgad.ng_TopEdge     = MYGAD_TOP +
offtop;newgad.ng_Width         =
MYGAD_WIDTH;newgad.ng_Height        = MYGAD_HEIGHT;
newgad.ng_GadgetText = MYGAD_TEXT;newgad.ng_GadgetID
= MYGAD_ID;newgad.ng_Flags         = 0;/* Now create it
and add it to our list */if(gad =
CreateGadget(LISTVIEW_KIND, gad, &newgad, TAG_DONE))
createWindow(glist);else  printf("Error: could not
create gadget(s)\n");
```

Patching libraries

The Amiga OS provides a function for replacing individual library functions: SetFunction(). This is extremely dangerous to use, and even the most careful "hacking" can cause serious crashes, so this is the point where you're advised to proceed at your own risk. In any case, make sure you've saved any important work before you start playing with the next few examples. The second example, "setf1.c", uses SetFunction() directly. It's naughty in several ways: 1) it's not generally possible to use ordinary C functions to replace library functions, and 2) it's not 100% safe to use SetFunction() at all. The examples on the disks have been constructed using StormC and they are pretty stable, given suitable conditions. This means that the compiler should not generate code that corrupts significant registers. Using the large (far) data and code model in StormC seems to be OK. SAS/C is probably fairly safe, too. To do this kind of thing properly we really ought to use Assembly code for the replacement library function. Most C compilers support linking in object files from standard Assemblers, but this is beyond the scope of these tutorials. So, we'll stick with using just C for these small examples and keep our fingers crossed. Anyway, back to the code: the call to SetFunction() needs the library base of the library to be patched, together with the offset of the victim function and the address of

Example 2

```
mylist;NewList(&mylist);/
* Now create it and add
it to our list */if(list-
gad =
CreateGadget(LISTVIEW_KIN
D, listgad, &newgad,
GTLV_Labels, &mylist,
TAG_DONE))
createWindow(glist);else
printf("Error: could not
create gadget(s)\n");
```

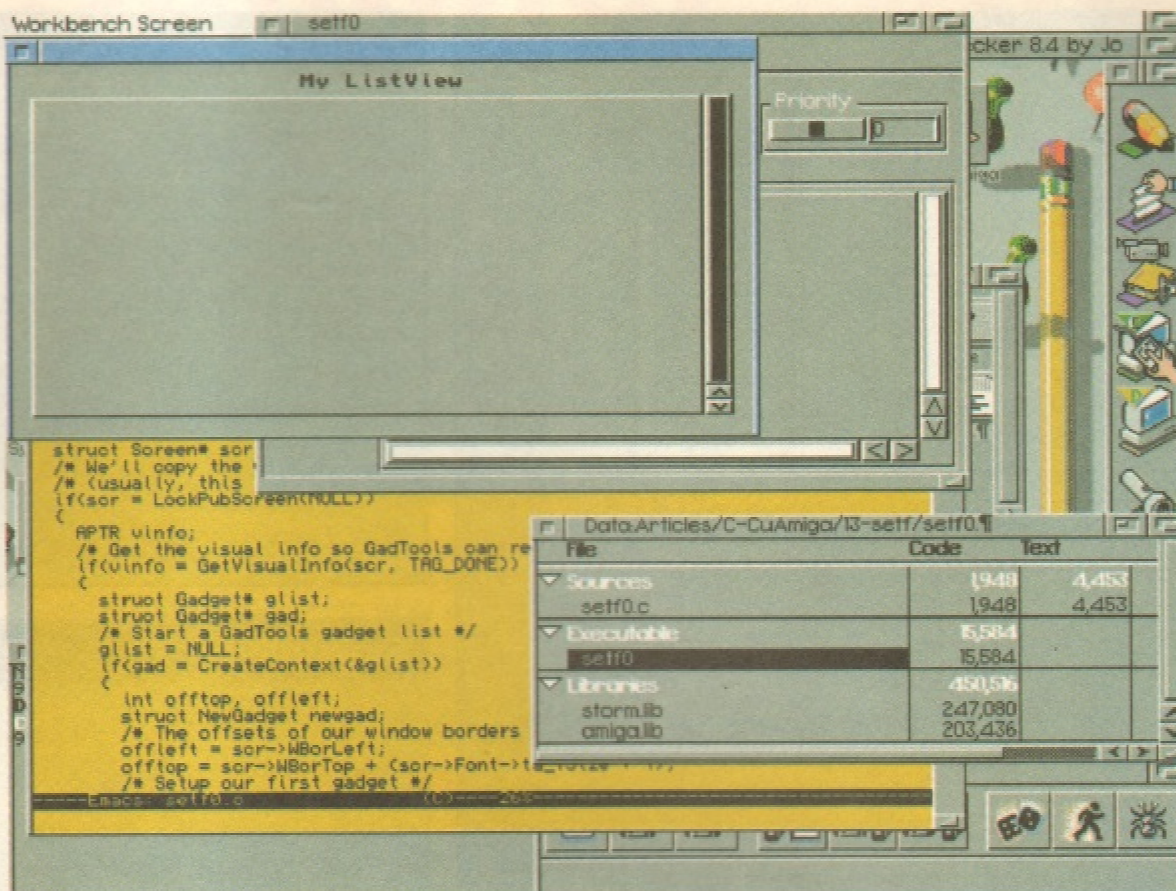
the replacement. The OpenLibrary() function is in the Exec library, so we've supplied SysBase (which is defined in amiga.lib, so it's declared as "extern" in our source code). The offset of OpenLibrary() is a much more difficult thing to find. You need to look at the '#pragma' entries in the files in the Include:pragmas directory. For the Exec library, the file in question is Include:pragmas/exec_pragmas.h. This lists the functions in the Exec library in order of their offset. The number that increases by six (generally) is the offset, and for OpenLibrary() this is "228", which is a hexadecimal number (although some compilers might use pragmas that specify offsets as decimal numbers). In fact, the value we need to supply to SetFunction() is negative, i.e., "-0x228" in C speak. To be really complete and precise, it is actually possible to get most library offsets from amiga.lib. They're the exported constants with an "LVO" prefix. Unfortunately, not all the offsets can be found there, and in particular the one for OpenLibrary() is not present.

Example 3

```
/* Set up our semaphore
and lock it
*/InitSemaphore(&ready);O
btainSemaphore(&ready);ol
df = SetFunction(SysBase,
LVO_OPENLIBRARY,
(APTR)&newf);/* Now do
the real work
*/setupWindow();SetFuncti
on(SysBase, LVO_OPENLI-
BRARY, (APTR)oldf);
```

Replacement

OpenLibrary()SetFunction() is also used to reinstate the original library function. To this end, the result of a call to SetFunction() returns the address of the replaced function, which can be used when you wish to reinstate it or if you want your new function to incorporate the old function's effect. Example 3 shows the wrapper around setupWindow() in main(). The presence of the semaphore is a protection mechanism, much like that used for the multitasking fractal code. Our replacement code for OpenLibrary() will try to update the ListView gadget, which is only valid once



◀ The result of the first program: a ListView.

the gadget exists and before it is removed. As other processes and tasks will be running our replacement code we need a way of preventing them doing so at 'bad' times. A semaphore is ideal for this job. Example 4 is the real meat. We're using some compiler-specific directives again (like "__saveds") since this is pretty low-level stuff. The register arguments are the ones that are documented for the OpenLibrary() when it's called from Assembly. The first thing the code does is call the old version of OpenLibrary() (or whatever had been patched in as this function!). If it's safe to update the list, we will then successfully hold the semaphore. It's worth noting at this point that any task or process could be running this code, so we shouldn't use DOS functions (like printf() or any other I/O) or allow the code to fall into a Wait() (so we couldn't use ObtainSemaphore()). Our real extra functionality is the addNode() call (see Example 5). This function allocates a new Node, and allocates and formats the In_Name element. The memory allocation is done with AllocVec(), which must be paired with FreeVec() to deallocate the memory. The advantage of these functions over AllocMem()/ FreeMem() is that the size of the memory allocation does not need to be specified with FreeVec() like it does with FreeMem(). The interesting call to sprintf() is like the printf() calls we've used before, but the result is stored in the string supplied as the first argument. The various parts mean:"$%8lx"The address of the resulting library base is formatted as an eight-digit hexadecimal number (with a leading "$")."%-20s"The name of the calling task (extracted from the Node in the result of FindTask()) is formatted to at least 20-characters and left-justified. "%s"The supplied library name is used in full. Hopefully, this ought to explain the careful calculation for the amount of memory allocated for the In_Name field.

Example 4

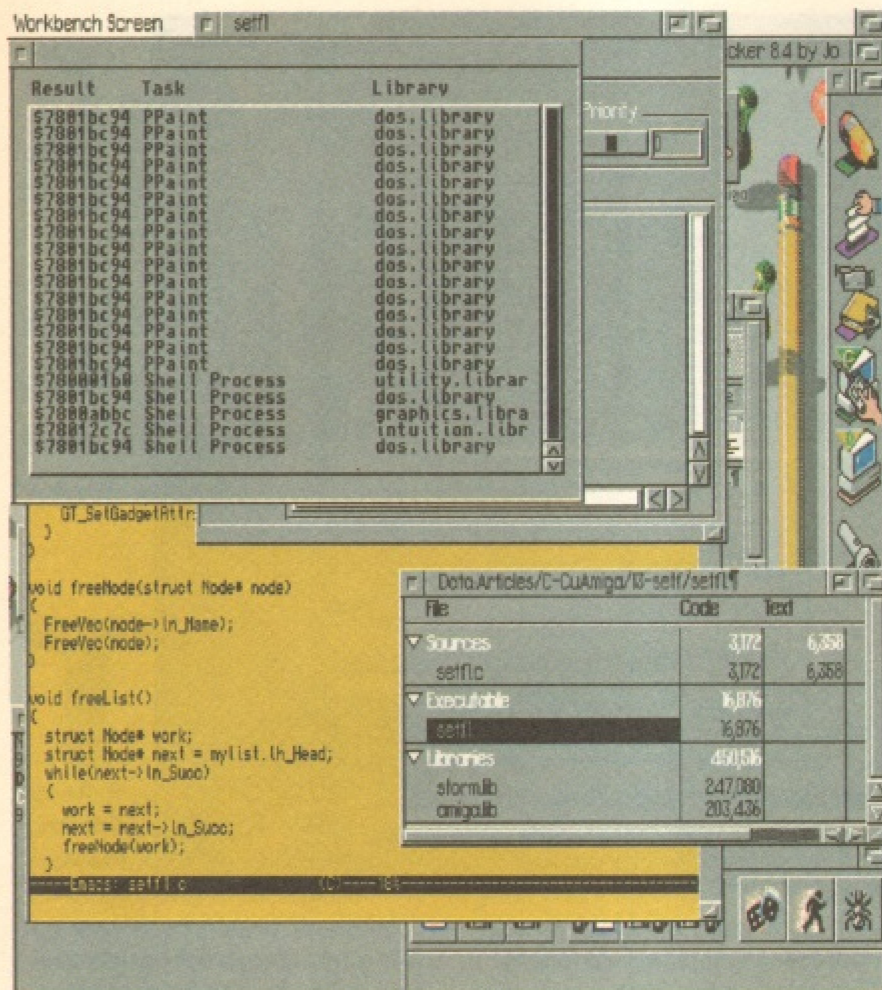
```
typedef struct Library* (*FUNC)(register __a1
STRPTR name,register __d0 ULONG vers);FUNC oldf;struct
Library* __saveds newf(register __a1 STRPTR name,
register __d0 ULONG vers){  struct Library* result =
oldf(name, vers);  /* Make sure the list/gadget is
ready to be updated */  if(AttemptSemaphore(&ready))
{    addNode(name, result);
ReleaseSemaphore(&ready);  }  return result;}
```

Exec list

An Exec list is basically a doubly-linked list. In a normal (singly) linked list each element (or Node) in the list has a pointer to the next element, with a NULL meaning the end of the list has been reached. In a doubly-linked list, each Node also has a pointer to the previous element, and NULL is used to mean that the start of the list has been reached.

Updating the ListView

The remaining bit of interest is the update to the list and the ListView gadget. Before the list used by the gadget can be altered it must be removed from the gadget. To do this we could attach a second, empty list, but that might cause the gadget to flicker when we eventually replace it with the updated list. Luckily, there's a nicer way to do this. GadTools allows the list to be specified as the special value "~0", which means "detach the list but don't update the display". So the first



▲ Snooping in action.

call to GT_SetGadgetAttrs() detaches the list nicely, then the new node can safely be added to the front of the list. Finally, the updated list can be reattached using GT_SetGadgetAttrs(). Once the ListView gadget is no longer needed, the list of nodes must be properly deallocated. Example 6 shows the two functions used to walk the list and free the memory used by the nodes. Notice the great care taken to copy the ln_Succ pointer before a Node is deallocated.

Does it crash?

There are a number of reasons why the patching examples might cause your machine to crash. One of these might be various other system patches you have running on your machine. Another (more likely) reason is the interaction with the tasks and processes that call the replacement code (as stated above, the patch ought to be written in pure Assembly). The third example, "setf2.c", tries to add a degree of safety to this patching, by using one of the 'Safer SetFunction Patching' libraries, namely the patch.library by Stefan Fuchs. An archive should be on the disks, or else it's available from Aminet as util/libs/PatchLibV6.lha. If this last example isn't more stable on your machine, try out the supplied examples in the PatchLib archive. If they don't work either, it's more likely that it's your setup that's the problem... Next month we'll look at some more interesting bits of the Amiga Operating System. See you then! ■

Jason Hulance

LVOAn

LVO is a 'Library Vector Offset'. Every Amiga shared library has a table of vectors which call the library's functions. This means that (externally) the entry points for library functions remain the same, since they use this static table. The actual implementation of the library and the real location of the functions are free to change. This makes it easy for new versions of libraries to replace old ones transparently to the programs that use them. It also enables SetFunction() to do its naughty stuff.

Example 5

```
void addNode(char* name, struct Library* lib){  struct
Node* node = AllocVec(sizeof(struct Node),
MEMF_PUBLIC | MEMF_CLEAR);  if(node && name)   {
struct Task* task = FindTask(NULL);    char* taskname
= task->tc_Node.ln_Name;    int size =
strlen(taskname);    if(size < 20)      size = 20;
size += 10+1+strlen(name)+1;    if(node->ln_Name =
AllocVec(size, MEMF_PUBLIC))      sprintf(node-
>ln_Name,                  "$%08lx %-20s %s", lib,
taskname, name);    GT_SetGadgetAttrs(listgad, win,
NULL,                       GTLV_Labels, ~0,
TAG_DONE);     AddHead(&mylist, node);
GT_SetGadgetAttrs(listgad, win, NULL,
GTLV_Labels, &mylist, TAG_DONE);  }}
```

Example 6

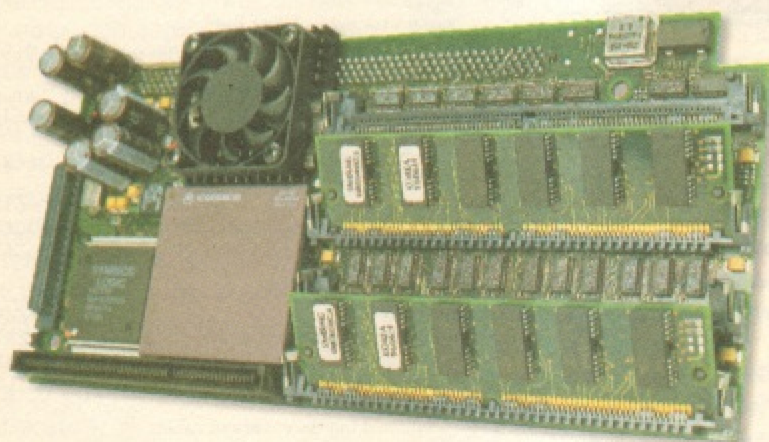
```
void freeNode(struct Node* node){  /* Need to check
node so that node->ln_Name is valid */  if(node)   {
FreeVec(node->ln_Name);     FreeVec(node);  }}void
freeList(){  struct Node* work;  struct Node* next =
mylist.lh_Head;  while(next->ln_Succ)  {     /*
Remember current node */     work = next;     /* Copy
current ln_Succ */     next = next->ln_Succ;     /* Now
we can free the current node */     freeNode(work);
}}*
```

Emulation



Serious PC and Mac emulation throws up a number of sticky problems once you've got the basics sorted. A decent CPU, compatible drives and RAM for example...

I can hear your first reaction to this article now. "Oh, no! Not another 'upgrade' article!" Well, yes and no, but mostly no. See, if you're going to get serious about serious Mac or PC emulation, there's a certain set of tools that will make your life much easier. Just getting the emulator and operating system is only part of the battle – after that, you have to make it useful, and with a little careful investment and patience you can do just that.



▲ Emulating modern Macs and PCs requires a lot of RAM and brute force from the CPU. A 68060 is a good start.

Memory munchers

We all know the AmigaOS is wonderfully frugal when it comes to memory usage. This was terrific news when memory was many, many times more expensive than it is today. Now, though, even Amiga users benefit from having memory to spare onhand, and it's even more handy if you're planning to emulate PCs or Macs.

For Mac emulators like Shapeshifter or Fusion, you typically burn at least 4-5MB of RAM, minimum, just launching the things. If you are buffering your screen data in memory for extra speed, that can eat up quite a chunk as well.

Back in the days when memory actually represented a significant cash outlay, we would say "16MB in your Amiga is a functional minimum for Mac emulation." But memory prices have been cut in half more than once since then, and just getting off the ground with MacOS 8 requires 32MB of memory. It can fake it with virtual memory, and despite the fact that Fusion will handle VM under the MacOS, using VM full-time is a terrible idea, and it's best to stop before you start.

If you stay away from MacOS 8, and don't run millions of extensions on your Mac partition, you can get away easier, but big applications like Microsoft Word and Adobe Photoshop still require several megs of memory just to launch without any projects running. Then you load in a nice big TIFF, and wham, you're out of memory again. For this reason, start considering 32MB of memory in your Amiga to be a good functional level – add at least another 8 if you want to clear 32MB on the Mac partition so you can comfortably run MacOS 8.

On the PC, things are a little tricker. Unlike the Mac, you don't usually get the luxury of just mapping all the memory you'd like (at a 1:1 ratio) over to the emulator. For PC-Task, that is possible in theory, but it makes for very slow emulation. For PCx, you hit a 16MB wall that, in the present versions of PCx, cannot be worked around. All of those 16MB need to come from a single block of memory – on most accelerator boards, that means your SIMMs should be in matched pairs (if you have room for more than one).

The way PC-Task works makes it very attractive to have as much memory as you can squeeze into the machine. The emulator uses "dynamic" techniques to convert blocks of PC-compatible x86 code into Amiga 680x0 code on the fly. Doing that saves you time in the long run, but the cost is available memory. The more memory you can give PC-Task to use for this code conversion, generally the faster your emulation will end up being. So, in general, the more memory you can throw at the problem, the better.

And that doesn't even begin to enter into how much memory you'll want to have handy to do serious emulation. If you stick with DOS based appli-

CDRs

Something to consider as the technology gets cheaper and cheaper are CD recordables (CDRs). If the amount of data is considerable, burning a CD on a 2X or 4X drive is not necessarily a ridiculous prospect. CDR media continues to drop in price, and at worst, you have a permanent backup of whatever you needed to transfer from one machine to another. CD rewritables (CDRW) don't have the problem of permanence, but they are substantially more expensive.

While not everyone can justify burning a CD whenever a single floppy won't do, the advantage to using a CDR to move data between platforms is that the PC, Mac, and Amiga will all read standard CD filesystems, without any encouragement. Keep in mind, however, that under old DOS some restrictions may show up if you don't have very good CD driver software – if you're unsure, it's best to use the 8+3 filename limits when burning those CDs.



▲ Of course most PC and Mac software comes on CD now, but you've probably got a CD-ROM drive so that shouldn't be a problem.

cations, having 8 to 16 megs available for the actual emulation should be very sufficient. If you plan to use Windows 3.1, 8MB is a real minimum – it's possible to run Win 3.1 in 4MB, but tends to be slow and tough to open many applications. And if you want to take the serious plunge and try running Windows 95 under PC-Task 4, 16MB (and a lot of patience) is required.

Floppy appendages

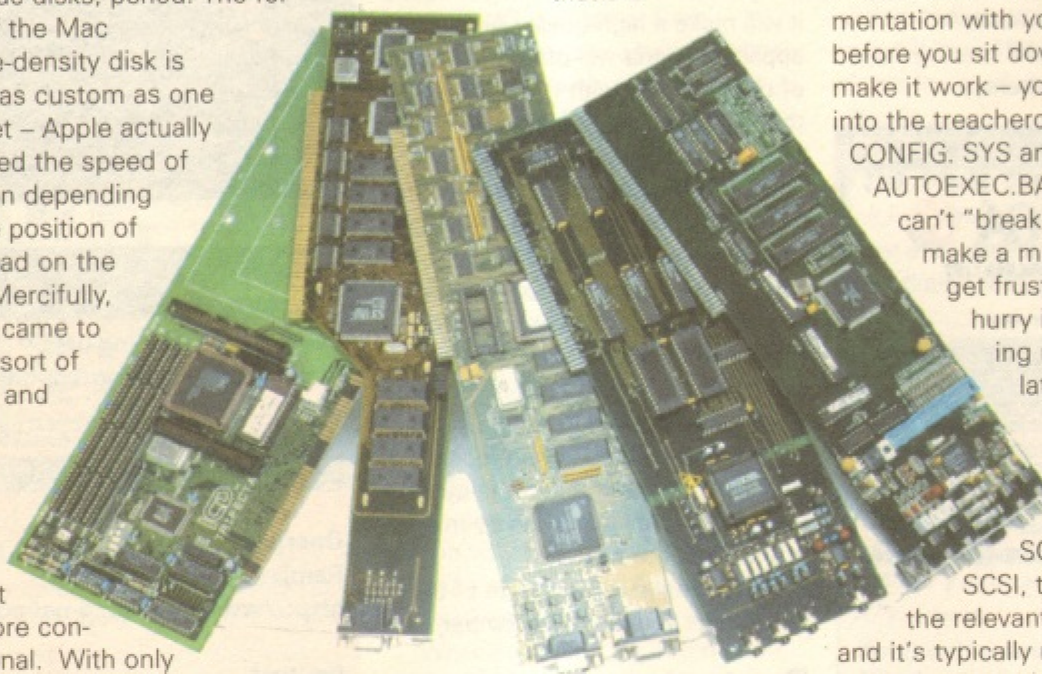
From installing the emulator operating system for the first time to getting crucial files over to the right partition to exploring all the bargain bin PC and Mac apps you suddenly get access to, a floppy drive is indispensible. Of course, we all have them – but by and large, Amiga users still tend to have the double-density jobs Commodore and Escom shipped in most Amigas. These just won't cut it.

PCs once upon a time were shipped with double-density floppy drives, so there are some applications, including slightly older versions of DOS, that you might find and use on a regular Amiga floppy drive. But it didn't take very long for high density floppies to proliferate on the PC and most of what you'll come across requires a high-density drive.

For Mac emulation, the situation is even more clear cut. A standard double-density Amiga floppy can't read any double-density Mac disks, period. The format of the Mac double-density disk is about as custom as one can get – Apple actually changed the speed of rotation depending on the position of the head on the disk. Mercifully, Apple came to some sort of sense and made their high-density format far more conventional. With only a little software help (like an emulator) an Amiga high-density floppy drive can be made to read Mac high-density floppies like a pro.

This is no problem if your Amiga came shipped with a Chinon high-density floppy in the first place. But in general the only people this lucky were certain Amiga 3000 owners and all Amiga 4000 (desktop) owners, along with the tiny group of original Commodore 4000T users. Barring that, it's time to look elsewhere. Some developers have found ways to modify other types of PC floppy to function as an Amiga high-density floppy drive (they're not exactly the same – the Amiga, due to limitations of the floppy controller, needs the drive to slow down in high-density mode), and those function pretty well as drop-in replacements for your original floppy drive. They can be a little pricey, however. The advantage is that they'll work exactly like your old Amiga floppy did, just with added support for Amiga, PC, and Mac high-density floppies.

The other route to take is a Catweasel. This little device will allow you to plunk almost any PC high-density drive you can find into your Amiga and get access to all sorts of floppies, including high-density PC, Mac, and Amiga. In some cases, you can even make a modification to an Escom A1200 floppy drive and use it, otherwise you'll have to seek out a cheap PC spare parts place and get one. Depending on how much you have to pay for the drive, this route can actually be cheaper than a dedicated Amiga high-density drive. The inconvenience is that the Catweasel doesn't function exactly like conventional Amiga drives do – there's a different partition name for every single different type of disk, and its autobooting function leaves something to be desired.



▲ A nice array of Zorro cards always helps. Aside from a CPU card with some extra fast RAM, the most useful add-on is a graphics card, which will speed up your display and allow for much larger screen sizes.

Those silvery things

If you want to use modern PC or Mac software, you'll most likely be wanting more than just the high-density floppy. It hasn't just been Amiga companies who have discovered the tremendous economies of scale a CD-ROM provides, and you'll come across them by the bushelful for other platforms. Having a decent, reliable CD-ROM is a must. PC emulator users should read and re-read the documentation with your emulator before you sit down to try to make it work – you have to delve into the treacherous domain of CONFIG. SYS and AUTOEXEC.BAT, and while you can't "break" anything if you make a mistake, you can get frustrated in a big hurry if it's not working right. Mac emulators can access your CD more directly, either through the SCSI bus (if it's SCSI, that is) or through the relevant device driver, and it's typically much easier to get up and running.

If you need to move lots of data between your emulation system and either another Amiga or other real PCs or Macs, you have some interesting options. Most removable media devices (like Zip drives, Jaz drives, etc.) work just as well on a Mac or PC controller as on the Amiga. So, you can use, say, a Zip disk to move a load of JPEGs off of one Mac onto your Shapeshifter partition for work in Photoshop. If you later want to take those over to a real PC, or maybe just a PC emulator partition and don't want to muck about with the software tools to move the files, you can put them back on that Zip disk. Despite the hassles, if you stick with the old MS-DOS 8+3 filename limit (8 letters in the filename, three in the extension), you can be sure it will at least be readable on all three platforms. Sometimes least common denominators are handy.



▲ A high density floppy disk drive will definitely make things a lot easier.

When you're emulating, you have two (or more) computers fighting for the resources of one. You just have to be a good shepherd and make sure that everyone has what they need to keep happy, and keep you productive. Besides, when you're emulating, your investments get spread around between more than one type of computer. That should be enough rationalization for most people, right? ■

Jason Compton

Resources

There's really only one place you need to look for more Macintosh emulation information: www.emulation.net. It's a one-stop shopping venue for all of the emulators mentioned in this article, and much more.



Surf's Up!

Newsgroups and websites have been buzzing since the WOA announcement. Suddenly it seems the Net has acknowldeged the existence of the Amiga...

NetGod speaks

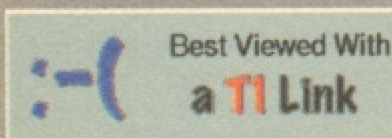
If nothing else, the recent press releases and announcements from Amiga Inc, phase5, Haage & Partner et al have provided both the trolls and fanatics with plenty of material, which at least saves the first group the effort of making things up.

It's been a long time since usenet was as good a spectator sport as it is now, although it does make finding intelligent life in some newsgroups even harder than it was before.

I'm all for attractive looking web pages, provided it doesn't get in the way of the content, but some sites are plain ludicrous. I was looking for some hardware, at a company I'd been recommended. When I got to their home page it was entirely graphic buttons, with no text whatsoever. So I waited for the images to arrive from what was obviously a slow site, only to see that each was an image of some text!

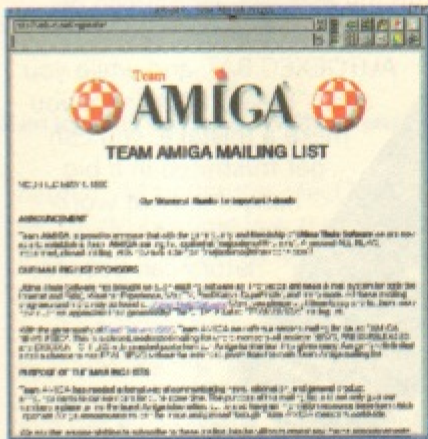
Following the links resulted in more pages in the same style, with different images and more waiting. It was all very pretty, but how many people want pretty instead of fast when they are sourcing electronic components? I doubt the webmaster had tried the site from anywhere but the local network.

I did get what I needed, by going to another company with a more practical site.



Ten days before the World of Amiga, Amiga Inc stated that they would be making a major announcement at the show. From that moment the newsgroups and mailing lists went berserk. The increase in traffic was incredible. I turned off my Amiga the night before WOA to take it to the show. By the time I got there and got back online on Friday afternoon, there were 475 new postings to comp.sys.amiga.misc. The Team AMIGA mailing list showed a similar increase in traffic. The discussions spilled over into other newsgroups and mailing lists too. Once the announcement happened, it got even busier!

Much of the discussion from the Amiga newsgroups appears on the CU Amiga CD each month, and is available from DejaNews too, but mailing lists have generally been harder to read after the event. Now the Team AMIGA mailing list is available as archives from the list server at http://www.thule.no/cgi-bin/lwgate. The THOR mailing list is also available from here.



Opera

Development on some of the three main Amiga browsers appears to have slowed recently, with only one of them releasing a major upgrade so far this year. Now there is a new player entering the competition. You may remember the mention of Opera in the April Surf's Up. Opera is a browser currently available for the PC that is being ported to other platforms by programmers specialising in each of those platforms. At that time they were trying to gauge the demand for an Amiga version. They received a tremendous response and have now decided to go ahead with an Amiga version, to be developed by a UK company, Ramjam Consultants Ltd.



"We are delighted to be involved in porting Opera to the Amiga. Opera has an Amiga 'feel' to it even under Windows 95, so I'm confident it will make a high-quality Amiga application, and will offer a degree of commonality with Windows 95 that few applications achieve", says Tim Corringham of Ramjam.

Opera has already gained quite a following among PC users because of its lightweight and efficient design, in comparison to its massive and often ponderous competitors. By having access to the development work of the PC team, Ramjam should be able to add Amiga support for new features more quickly than the programmers of the other browsers, who have to do so much of the work themselves.

The planned release date of the first Amiga version is December 98.

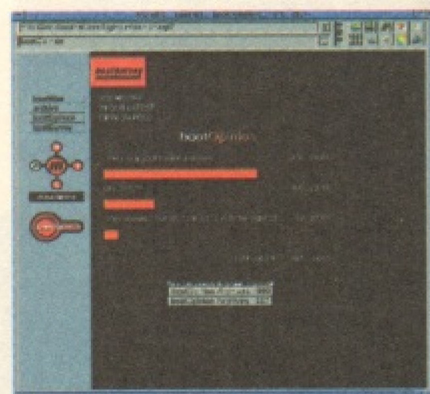
Bootnet survey

Bootnet, a general computer news site, recently carried out a survey of reactions to the announcement of the new Amiga. Considering that this is not an Amiga site, so you would expect a somewhat less enthusiastic response than you would from an Amiga-specific site, the results are both surprising and encouraging. The question was "How do you feel about Gateway resuscitating the Amiga?" and readers had three choices. The current voting stands at:

There is a God! I want one!	**69%**
Um, Why?	**23%**
No	**8%**

Does this really mean that two-thirds of PC owners want one of the new Amigas?

Neil Bothwick



Contacts:

Team Amiga Mailing list
http://www.thule.no/cgi-bin/

lwgate Home page
http://web.wt.net/~gpeake/

Opera
Ramjam Consultants Ltd
http://www.ramjam.u-net.com

Bootnet
http://www.bootnet.com/opinion.html

Deja News
http://www.dejanews.com



Surf of the Month

Once again, fluffy Neil Bothwick – like a duck taking to water – rummages for tit-bits in the sea of information.

When you want to buy or sell something, you can't beat classified advertising, and the web adds the power of search engines to traditional classified ads. **Exchange & Mart** and **Loot** are two, well established, classified publications that are now accessible via the web, and it really is a lot easier to type a request into a search engine than it is to pore over pages of small print classifieds. Naturally, if it's Amiga kit you are looking to buy or sell, you have to look on **AmiBench**.



Bargain Holidays

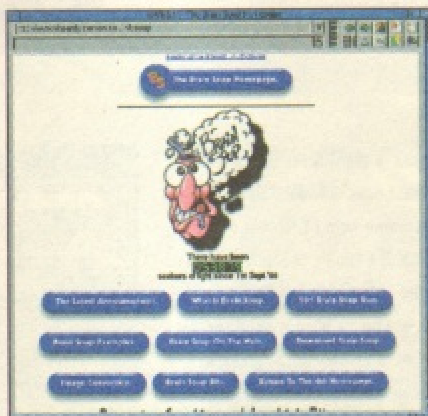


A2B Travel

Sun, sea, sand and...

It's the time of year when thoughts turn to sunning yourself on a beach. I've always thought the web was well suited to providing information and promotions for holidays, much better than watching page after page of teletext, only to forget to press Hold when you finally see something interesting, but there are very few travel companies taking advantage of it yet. **A2B Travel** provides a wide ranging travel service, including useful information like exchange rates.

Their site links to **Bargain Holidays**, who provide the same sort of service in cut price holidays as the teletext advertisers, but in a more accessible way.



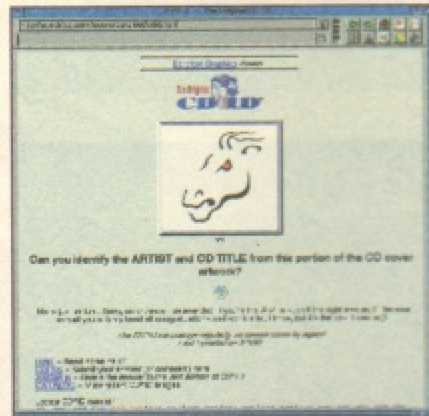
Brain Soup

I'll name that tune in one

The collection of 6000+ CDID files on this month's CUCD is nothing in comparison with what is available from the CD Database. They stopped making the whole database available for download after it got bigger than 70MB! The database can be used in two ways.

You can search for artist, track or CD names, as you would expect from a database, but this one has an extra feature. If you put a CD in the drive whilst online and running a suitable CD player, it will contact the database to retrieve information on that CD. There are no Amiga players listed on the site, but the relevant information about the database is freely available, so there's no reason why this couldn't be added to some of the many Amiga CD audio players.

While searching for information on CDIDs, I came across a site that will appeal to music trivia "experts". **CD*ID** shows a small portion of a CD cover and asks you to name the artist and title. There are archives on the previous competitions too.



CD*ID

Way to go!

"**The Darwin Awards** are given, usually posthumously, to the individual(s) who remove themselves from the gene pool in the most spectacular fashion." There are several sites relating to these awards, but this is the official one. Since most of the stories relate to someone's death, some people may find these sites somewhat tasteless, but others will find them very funny. The story of the guy who attached a solid rocket motor to his car, and ended up embedded in a cliff face 125 feet above the road, is now a classic.

The real thing

The link between computer enthusiasts and science fiction fans has always been strong, just look at the number of Star Trek, Star Wars and Babylon 5 web sites. You can't beat the real thing though, **NASA** have a comprehensive web site providing up to date information on current and future missions, with a large selection of pictures.

Web sites on how to make your own web site have always been popular. **The Brain Soup** site is basically a collection of background textures that could be used for web page or Workbench backdrops, presented in a clear and easy to use way. **Jeffrey Zeldman's** site provides a wider range of resources. As well as collections of icons and backgrounds, this site provides tutorial and help information on web site authoring and, unlike the previous site, it is updated very frequently. ■

Neil Bothwick



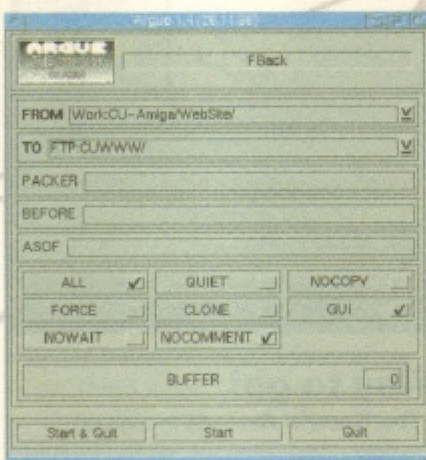
Exchange & Mart

URLs

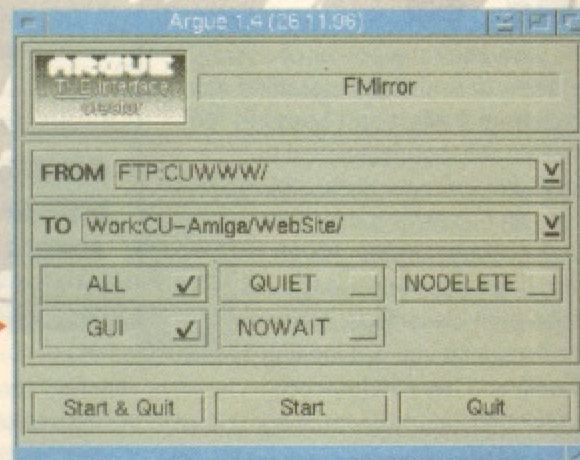
Loot	http://www.loot.co.uk
Exchange & Mart	http://www.exchangeandmart.co.uk
AmiBench	http://thunderstorms.org/AmiBench
Brain Soup	http://www.skoardy.demon.co.uk/bsoup
Jeffrey Zeldman	http://www.zeldman.com
A2B Travel	http://www.a2btravel.com
Bargain Holidays	http://bargainholidays.com
CDDB	http://www.cddb.com
CD*ID	http://www.bfoot.com/users/barefoot/cdid.html
The Darwin Awards	http://www.officialdarwinawards.com
NASA	http://www.nasa.gov
CU Amiga Online	http://www.cu-amiga.co.uk

Wired World

FTP programs don't have to be all file lists and buttons. FTPMount is so easy to use you could forget it's there.



This is the GUI for FBack. you must have NOCOMMENT set when working with FTPMount as it doesn't handle file comments. The ALL option is ticked to make it act on all files in subdirectories. The GUI option gives a progress report.



Here's the FMirror GUI. The ALL option is ticked to make it act on all files in subdirectories. The GUI option gives a progress report.

FTP, or File Transfer Protocol, is the standard way we exchange files with other computers on the Internet Generally we use either a dedicated FTP program, like AmFTP or AmiFTP, or a web browser. But is this really the best way to do things? All an FTP program does is download a copy of a file from a remote machine and save it to your hard drive. It doesn't let you do anything with the file you've downloaded.

So using files from the Internet is a two stage process, you need one program to download a file and another to actually use it. Wouldn't life be much simpler if the program that used the file could also download it? Just think how much time and trouble it would save if you could import a file from the pix directories of Aminet straight into ImageFX, or upload that masterpiece of a web site you've just created straight onto your ISP's web server.

Aminet on your Workbench?

The good news is that this is possible, and has been for several years, using a little-mentioned program called FTPMount. FTPMount does just what it says, it mounts a device called FTP: on your system, which you can then use to access just about any FTP site from any program, including Workbench. FTPMount is in the Wired World drawer of this month's cover CD. There is an installer script, but manual installation is simply a matter of copying the FTPMount directory to your hard drive, moving the contents of the DOSDrivers drawer to SYS:Storage/DOSDrivers and assigning FTPMountDir: to the FTPMount directory.

Once you've installed FTPMount, go online, open a shell and type

multiview FTP:uk.aminet.net/aminet/RECENT

and you will see the list of recent uploads to Aminet displayed on your Workbench.

This is a start, but FTPMount is capable of much more than this. Instead of typing in the full address of a site and the path to the directory you need, you can set up an alias to do it all for you. In FTPMountdir: Hosts you will find a number of drawers and icons, each drawer represents a site (or host), with configuration information held in the icon's tooltypes. Select one of the drawers from Workbench, make a copy and rename it to "Aminet".

Then select Information from the Icons menu of Workbench and edit the tooltypes so they look like the screen grab. Now FTP:Aminet will take you straight to the main directory of the UK Aminet mirror. You could set up several icons for your favourite Aminet directories. If you then open the drawer on Workbench and select "View by Date" and "Show All" you will be able to see any new uploads to that directory immediately. Since this is a Workbench icon, you can snapshot it so this becomes the default display for that site.

Maintaining a web site

FTPMount is not restricted to sites that accept anonymous logins, you can also configure hosts to access password protected servers, such as your web space. The USER and PASSWORD tooltypes allow you to log into any site that you have permission to access. There is also a new PASSWORDCRYPT tooltype that lets you store your password in encrypted form. This is more secure than saving the password as plain text, that anyone can read, but it may be wise to keep a copy of the password somewhere safe in case you forget it.

Once a web site gets bigger than a few files in a single directory, keeping it updated from the master copy on your hard drive can become a major chore. FTPMount makes it much easier, especially if combined with other programs. Simply typing

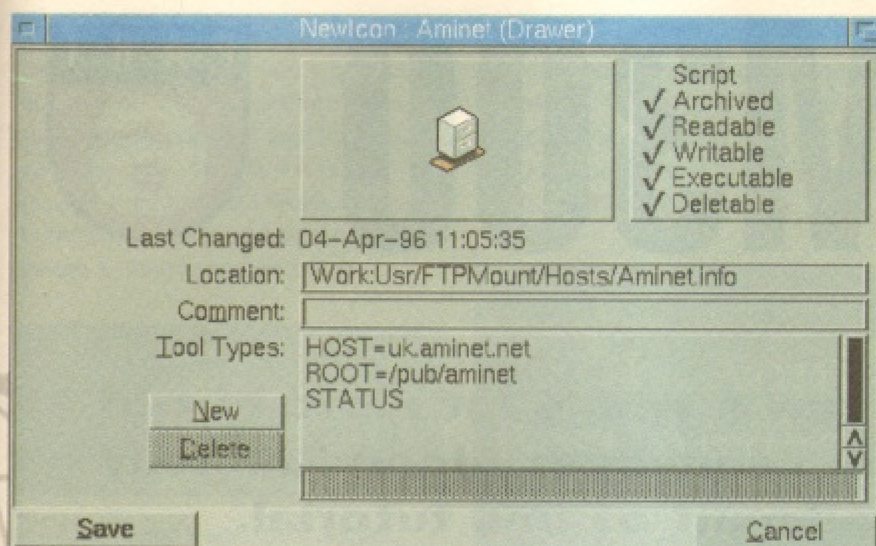
Copy Work:MyWebsite/#? FTP:MyWebSite ALL

will copy the entire contents of your web site from your hard drive to your ISP's web server, provided you have created a suitable host for FTPMount. Updating it takes a little more work, but not much.

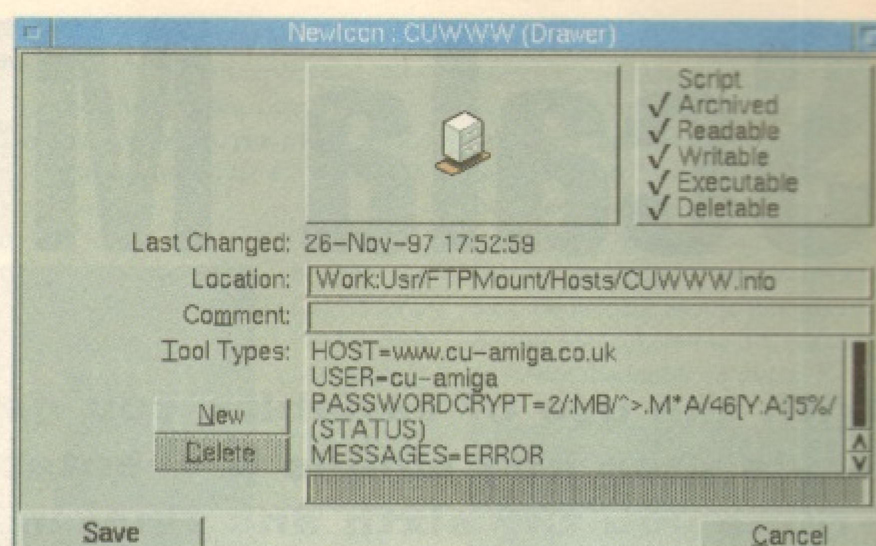
There is a neat little backup program called FBack, accompanied by FMirror, that makes maintenance of even the most complex of web sites a doddle. FBack works by checking the archive bits of all the files in it's source path, and copying any files that don't have the archive bit set to the destination path, setting the archive bit of the source file in the process. Archive bits are a feature of AmigaDOS that allow software to keep track of files that have been modified, you can see them in the output of the List command, or in most directory utilities. Whenever you modify a file, it's archive bit is cleared, so your backup program knows it has been changed since the last backup, without needing to know the date of that backup. So FBack will simply copy all files that have been modified since it was last run. By setting up a host in FTPMount for your website, and

Web cameras

There are many other things you can do with FTPMount. If you looked at CU Amiga Online during the World of Amiga, you may have seen our webcam. This was based on a simple script that took a directory of photos taken with a digital camera and uploaded them to the web site at regular intervals, using FTPMount. You could just as easily set up a live webcam using either a video camera with frame grabber or a digital camera. Set it up to grab a picture at regular intervals and save it as FTP:MyWebSite/webcam.jpg.



▲ Here you can see the basic FTPMount setup for the UK Aminet site. You can set up additional hosts for specific directories by altering the ROOT tooltype.



▲ This is FTPMount set up to access a web site. Note the use of the encrypted password to prevent anyone reading the password from the file and memorising it.

using that as the destination in FBack, you can quickly and easily keep your site up to date, whether it is a small collection of homepages or a large commercial site.

Clear out the deadwood

When you've been running a web site for a while, you find you accumulate all sorts of files that are no longer used, such as old images. You don't want to spend online time trawling though your web site looking for files that are no longer needed, and you don't need to. FBack comes with a companion program called FMirror. This does the opposite of FBack, it checks the source path for files that do not exist on the destination path and deletes them.

In this case you set the source path to the remote server via FTPMount and the destination to your local copy of your web site. So you first run FBack to copy across any updated files, and then run FMirror to remove any outdated files. The screen grabs show the GUIs used for each program, but they can also be run from the shell, or a script. All you need is a two line AmigaDOS script like this:

```
FBack FROM Work:MyWebSite/
TO FTP:MyWebSite/ ALL NOCOMMENT FMirror FROM
FTP:MyWebSite/ TO
Work:MyWebSite/ ALL
```

Call it UpdateWWW and either type it in a shell or attach it to a Dock button. You can now update your whole web site with a single command. One word of warning, some web servers also store system configuration files within your web space. If this is the case you will need to keep a copy of those on your hard drive to prevent FMirror deleting them.

Uploading web pages

The procedure for uploading web pages to your homepage space varies according to your ISP. With some you have to request access to your space before you can use it, whereas Wirenet and Demon make it available from the day you open your account.

Generally you need three pieces of information to log in to your web space; the upload address, a login name and a password. The login name and password are usually the same as you use when dialing in, the format of the upload address varies according to your ISP. These are the addresses for several UK ISPs.

Wirenet: www.yourhostname.u-net.com (using your own hostname)

Demon: homepages.demon.co.uk

Enterprise: homepages.enterprise.net

Netcom: www.netcomuk.co.uk

UK Online: web.ukonline.co.uk

Globalnet: www.users.globalnet.co.uk (copy files to public_html directory)

Zetnet: www.users.zetnet.co.uk

Note that even though some of these are www. addresses, you still connect to them with an FTP program. Most web servers run on Unix, which has a case-sensitive file system. This means that you need to be careful with the spelling of link and file names. If you have a page called AllAboutMyDog.html and a link of <a href="allaboutmydog.html"> the link will work fine when testing it on your Amiga, but will fail when uploaded to a Unix server, since these are considered to be two completely different file names. The safest option is to use lower case everywhere to avoid the embarrassment of people complaining about broken links and images that don't display. ■

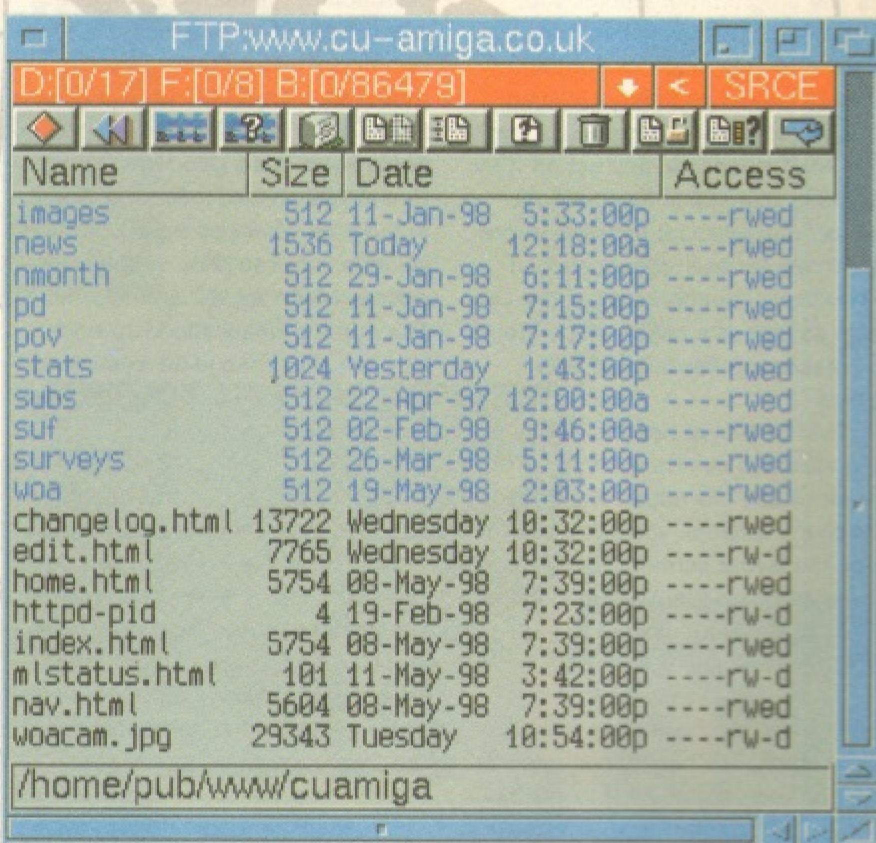
Neil Bothwick
(cucd@wirenet.co.uk)

The Opus alternative

Users of Directory Opus have a facility similar to FTPMount built in. OpusFTP lets you display the contents of an FTP site in a lister and perform most of the operations you would on a lister containing a local directory. It's not as suitable for using in a shell, which is why I used FTPMount for the WOAcam, but it makes up for this with many other features not present in FTPMount. Any existing user of DOpus Magellan should have a good look at the features available with OpusFTP, some of which are available on very few FTP programs on any platform.

On the CD

FTPMount – including the recent update
FBack – with FMirror
Argue – needed by FBackGUI
WOAcam.rexx – the script used at World of Amiga



▲ Here is another way to access remote servers from your Workbench. This is the root of the CU Amiga web site shown in a standard Directory Opus lister. Note the stats directory and http-pid file.
These are system information, put there by the server. If your server does this, be careful that you don't let FMirror delete them.

Scala MM300



With the use of variables you can get a whole lot more out of Scala than just simple presentation sequences. John Kennedy brings you the sixth and final installment of this tutorial.

In many ways, Scala is a simplified programming language. It can display things on-screen, react to input from the user, and it can even perform calculations.

It's this ability of Scala to think for itself that we'll be looking at this month. Adding some degree of intelligence to your Scala scripts can make them considerably more interesting. If, like me, you happen to use Scala to create shop-window displays then you can use these techniques to create rolling demos which perform differently each time – making them much more interesting and extending their useful life.

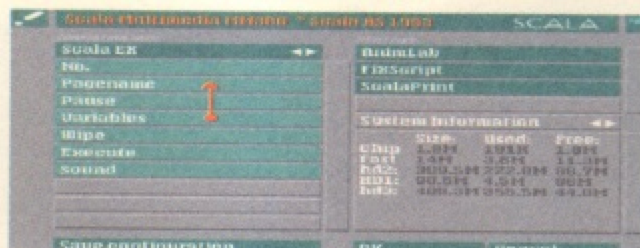
What is a variable?

A variable is a location in memory which can be used to store a value, as any programmer will tell you. Scala can use its variables to keep track of things, such as number of times a page has been displayed.

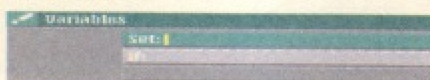
Scala can test the value currently stored in a variable, and act on it by jumping to a specific page in the script: this makes it possible to create loops for example. Scala can also display the contents of the variable as part of a page: which greatly increases the flexibility of your script.

First of all, we need to see where the variables can be entered. In order to see any action which might involve a variable, you'll first have to edit the layout screen slightly to make them visible. We did a similar thing to make it possible to add sounds to pages.

All you need to is click on the System button from the menu layout screen, and click the configuration button until you get to shuffle the Scala EX settings. Now drag the Variables event button closer to the top, so that when you return to the layout, there will be a column for Variables.



▲ **Before you can use variables, you'll have to make them visible from the System menu. When you return to the layout window, and click in the Variable column for any page, you'll open up the Variable window, like this.**



▲ **All variable operations are entered into this little window.**

From this window here you can do three main things:

1. You can define the name and contents of the variable, by entering it in the Set box. You can use a wide selection of names, so try and pick something which will help you remember what it does. "Age" is more helpful than "X" for example. If this is the first time the variable is being used, it's a good idea to set it to an initial value. Notice the digit 1 in the box. After you enter your first variable, you can click on the little arrows which appear and add more. The number helps you keep track. You can also change an existing variable, by using an operator such as plus or minus.

2. You can act on the value of a variable, by entering a statement in the "IF" box. For example, you could test if the age is over 21, using a command such as "age > 21". You can also test for "less than", and "equals to". Again, it's possible to enter multiple IF statements using the little arrows which appear.

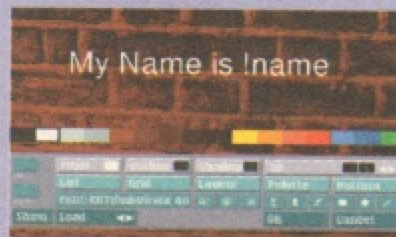
3. Finally, you can do something if the condition defined above is met. You can't do anything dramatic, but you can select a page to jump to. By carefully defining your pages, you can therefore make your script act in totally different ways depending on the value of the variable.

Now let's look at how we can use variables to create some scripts which appear to be smarter than usual.

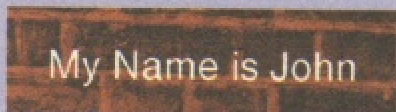
Different types

The variables you define in Scala can store two different types of data: text (known as string variables) and numbers (known as integer variables). You don't have to define them in a special way, Scala will work out the type by looking at the first value you set it to.

When it comes to displaying the contents of variables, nothing could be simpler. All you need to do is define your text appearing on the screen as normal, but precede the variable name with an exclamation mark. For example, if you have a variable called "name", then when you include the line "My name is: !name" on a page, Scala will substitute the name when the script is run.



▲ **This is what the screen looks like when you are designing it...**



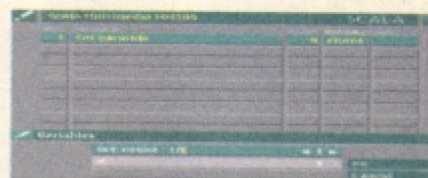
▲ **but when the script is executed, the variable contents are included instead.**

Example project: Countdown Timer

Many videos and demos start with a countdown timer, so let's create one to start our Scala script with. Remember, once you've saved a script you can still load it back into another project and use it again. Building up a library of useful scripts is the best way to tackle any large Scala project.

Let's say we want our countdown script to start at 10, and countdown to 1. The easiest way to create a countdown without scripts is to create a page for each number. This is a little tedious to do, and if you wanted to countdown from 100 instead, it gets silly. A better way is to use a variable to keep track of the current count value. Here's how:

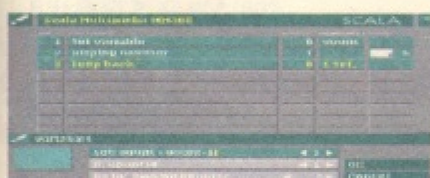
1. Define a page which does nothing but contain a variable event. The variable event will use the Set box to create a variable called "count" which we will give the value 10. This is the first value which we will display. Switch off any page delay. ▼



2. Next we create a new page which will display the variable. I've used a large font here, the variable name starts with a "!" mark. In fact, the variable name is so big it's gone off the side of the page. This doesn't matter. Set the page delay to one second. ▼



3. Now for the clever part. On the third page we define a new variable event. We use all three parts, in that first we subtract one from the variable, then we test if it is still greater than one and finally we loop back to the display page. Again, the pause setting is turned off. ▼



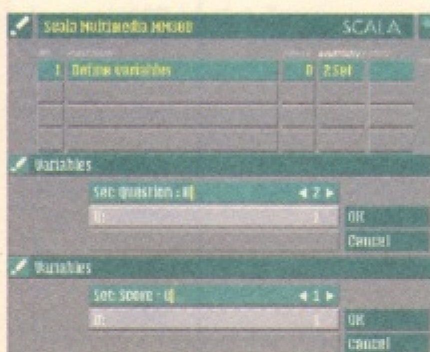
4. The last page isn't needed, it's simply to demonstrate that the loop has finished. If you want your countdown to do something more exotic, why not include a 25 frame animation of a circle spinning around, or filling with grey. Why 25 frames? Because that will take a second to replay. ▼



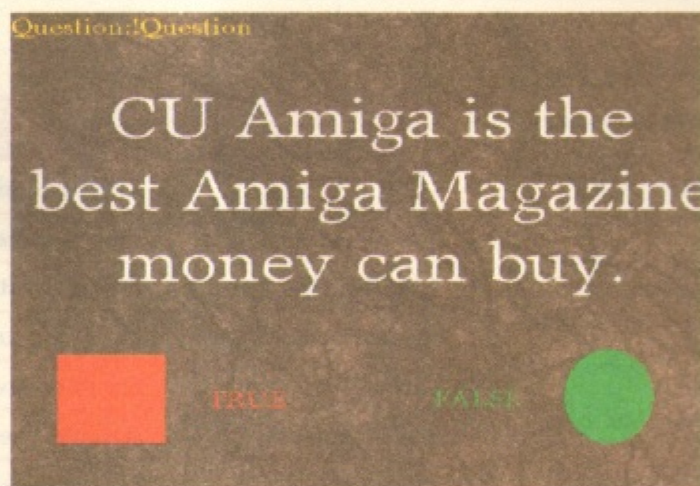
Example project: A Quiz

As Scala can keep track of numbers using variables, it can also keep track of things like scores: which means it's possible to use it to write simple games. With a little planning and ingenuity you could use Scala to create an adventure game if you wanted, but here we'll stick with the beginnings of a quiz program.

1. Once again, we start our script by creating and initialising a variable. In fact, this time we'll use two variables and set both to zero to start with. The names are "Question" (to keep track of the current question) and "Score" (to keep track of the player's score). ▼

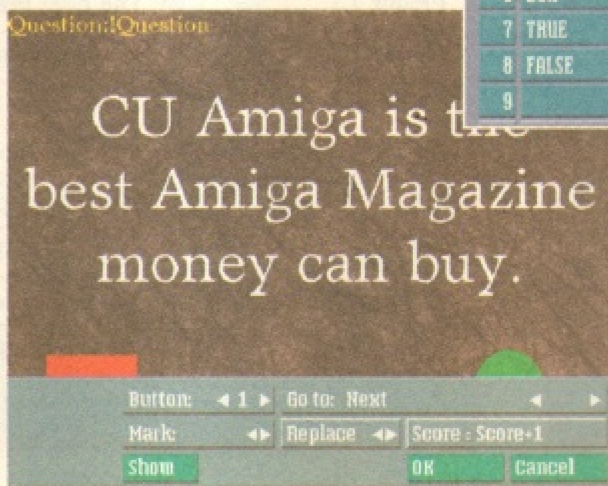


2. Now we can define the questions. The best way to do this is to get the first question page just right, and then copy and paste it to add the others. Here's the layout of the question page. Notice how right away we use one of the variables in the top left of the screen. ▼

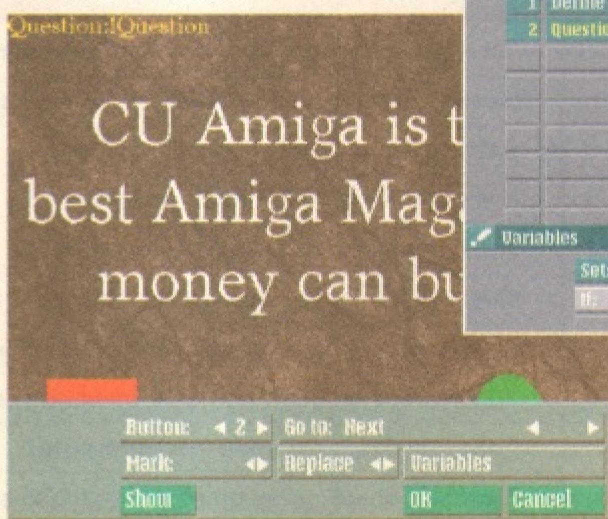


3. The code which looks after the buttons is where we'll build-in the logic which checks for the right answer. You should know how to define an object as a button from a previous Scala tutorial.

This is the code for the correct answer: in the Variable box, it adds one to the score. The Goto: box is set to Next, so the page automatically moves on. ▼



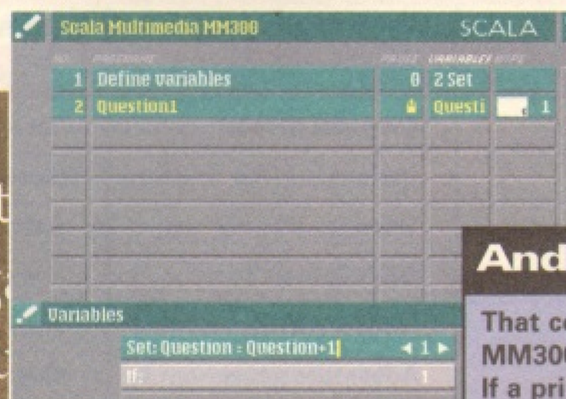
4. This is the code for the button which leads to the wrong answer. You can see it's identical, except that there is no entry in the Variables box. As it's the wrong answer, the player won't get any points. If you were being harsh, you might want to subtract points for a wrong answer.



5. From the List Editor for the question page, I made sure that all the elements appeared in the right order. The List Editor is also a great place for selecting the Wipes for each element: the buttons zoom in, whereas the text just appears down the screen. ▼

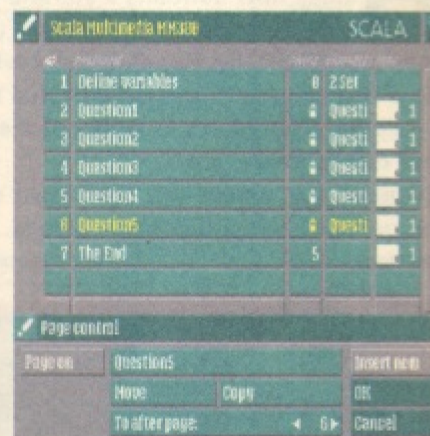
	Scala Multimedia MM300			SCALA
1	Question:!Question	→	6	0:00
2	CU Amiga is the		6	0:00
3	best Amiga Magazine		6	0:00
4	money can buy.		6	0:00
5	Ellipse	●	6	0:00
6	Box	●	6	0:00
7	TRUE		1	0:00
8	FALSE		1	0:00
9		→	6	

6. One more thing is needed to finish off the question page: we need to increment the question number variable. This is done back at the main layout page, after a click on the Variable column button. ▼



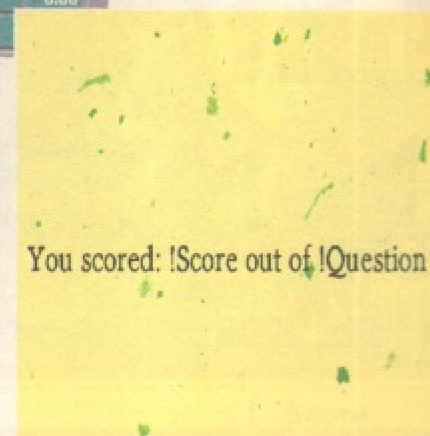
The code here is executed before the page is displayed: so even though we initialise the question to zero, it has one added to it before it's displayed.

7. Now you can copy the question page for each question in your quiz. Click on the number of the page, and then the Copy button to duplicate it. You can then edit the button, changing the text as necessary. Remember also to change the button which increments the score to reflect the correct answer. ▼



8. Finally we get to the end of the quiz. The final page tells the user their score, and also the number of questions asked. You could even use Scala to calculate the percentage, but I'll leave that as an exercise for you. ▼

John Kennedy



And finally...

That concludes our Scala MM300 series.
If a printed manual is made available you can be sure to hear about it first in CU AMIGA. For now address Scala queries to the usual Q&A address.

Reviews Index

Here it is: the long-awaited, revamped Reviews Index. The index now contains a summary of product reviews from only the previous four issues of CU, sorted by issue and then alphabetically. Hopefully, you will find this a bit easier to use. New to this page is the CU Editorial team's list of recommended products. If you don't own any of these, do yourself a favour and buy one immediately.

As usual, if you have any comments or suggestions about this page, please contact us.





Hot Products

Title	Comment
Aminet Sets	The must-have shareware archive.
Draw Studio	Amiga's best structured art/illustration package.
Elastic Dreams	Swirly picture manipulation hi-jinks.
Epson Stylus Photo	For photo-realistic hardcopy.
Genetic Species	A damn fine game.
ImageFX 3.0	THE professional image processing software.
Miami 3.0	Makes jacking into the 'net so easy.
OctaMED SoundStudio	What? Still using Octamed 6? Get this now!
Opus Magellan	We love this Workbench replacement-OS3.5?
Pace 56K Voice Modem	The Rolls Royce of Modems.
Pagestream 3.3	You want to lay out pages? Look no further.
Phase5 PowerUp cards	PowerUp says it all.
Power Scan Magic	Throw away that Microvitec monitor.
Power Tower	The best place to re-house your 1200.
PPaint 7.1	The best pixel paint package on any platform.
Quake	Another damn fine game.
Siamese RTG	Splice your PC to your Amiga.
SoundProbe	Truly awesome sample manipulation package.
TurboPrint 6	Must-have print enhancement package.
VoyagerNG 2.95	Surf the web in style.
Wizard Mouse	The rodent of choice in the CU offices.
Wordworth 7	The top digital quill on the Amiga.
CU Amiga Magazine	Of course

Reviews Index

Title	Type	Comment	Score
April 98			
20,000 Web Graphics	Graphics (Clipart)	Extensive but unstructured collection of clipart	85%
Aminet 23	Various	More of the latest software from the Aminet	88%
DPaint 5 CD	Graphics (Paint)	A re-release of an old master	83%
Font machine	DTV (Fonts)	Makes creating colour fonts easy	90%
Siamese RTG 2.5	Network RTG package	The ultimate PC and Amiga integration	92%
Simon the Sorcerer	Adventure game	This re-release has great graphics, humour and puzzles	90%
Speccy Classix '98	Emulation	Collection of games for your Speccy or 64 emulator	89%
ST Fax Professional	Comms (Fax)	An excellent program for home or small business use	94%
Theme Park	Strategy game	A slightly aged, but addictive re-release	92%
Wingnuts	Flight sim	Tongue in cheek, good graphics, poor gameplay	67%
X-DVE 3.01	DTV (Effects)	Fast and flexible video effects package	92%

Reviews Index

Title	Type	Comment	Score
May 98			
ADescent	3D game	Good but needs work to become the ultimate Descent	82%
ArtStudio Pro	Graphics (cataloguer)	Under-delivers on features, pales before the competition	69%
Blizzard PPC 040/603	Accelerator (A1200)	The essential upgrade for all A1200 users	94%
Descent	3D game	Plays well but still has a few glitches	80%
Dynamode Modem	Modem	Speed is what matters and this modem doesn't deliver	75%
Elastic Dreams	Graphics (processor)	Not a rival for ImageFX but makes graphics great fun	82%
Fusion 3.1	Emulation (Mac)	Fusion is tops in Mac emulation	92%
Kids Rule OK II	Kids game	A compilation of three very poor games	40%
Pace 56 Modem	Modem	A high quality modem	92%
Picture Manager Pro 5	Graphics (cataloguer)	Impressive as a cataloguer and an image processor	90%
Playdays	Kids game	Too much work and too little fun	75%
Playdays Paint	Kids game	Great fun for kids – highly recommended	92%
Wordworth 7	Word processor	Simply brilliant	93%

Title	Type	Comment	Score
June 98			
AWeb-II 3.0	Comms (browser)	The first Amiga browser with Javascript	90%
ImageFX 3.0	Graphics (paint/process)	The best image processor goes from strength to strength	95%
Malice (for Quake)	3D game	Utterly brilliant, worth buying quake for alone	95%
MasterISO V2	CD-RW software	A great all round package	88%
Micronik External Scan Doubler	Scan Doubler	Well deserving of the Boing Ball	93%
Micronik Internal Scan Doubler	Scan Doubler	An inexpensive route to a high quality display	88%
Power Digital Camera	Digital Camera	Easy to use, fun, and cheap – but results don't impress	81%
Quake	3D game	The ultimate in atmospheric shoot'em up action	95%
Sirius Genlock	Genlock	Superlative video output – at a price	90%
The Labyrinth of Time	Adventure game	Some design flaws, but an engaging game nonetheless	78%
Turboprint 6	Printer drivers	An essential companion to any modern printer	93%
TV-Amazing	TV Tuner	Good, but not ideally suited for Amiga use	75%

Title	Type	Comment	Score
July 98			
Amiga Forever	Amiga Emulator	Very workable Amiga emulation	87%
Aminet 24	Various	The latest downloads from the 'net	89%
Aminet Set 6	Various	A gargantuan collection of software	90%
Eyetech single-slot Zorro	Expansion (A1200)	Functional, but inelegant and expensive	78%
EZ-PC Tower	Tower system	An excellent, all-in-one Siamese system	89%
Flyin' High Patch/Data Disk	Racing game	Bug fixes and extra courses to make Flyin' High playable	74%
Pyromania	DTV (clips)	A great package for professional DTV	92%
Quake: Mission Pack 1	3D game	A great way to get more out of Quake	87%
Shrak for Quake	3D game	Probably one of the finest add-ons for Quake	88%
Tornado 3D	Graphics (3D)	Flawed, but exciting enough to risk	87%
Virtual Karting 2	Racing game	A sequel that should never have happened	40%
Wheels On Fire	Racing game	A fun game, marred by system unfriendliness	50%
Yamaha MU10	Sound card (MIDI)	Good, but not as flexible as a proper sound card	85%

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- 4180 SOFT MEM – Double RAM with no expensive RAM cards! It actually works too!!
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- 2634 D-COPY 3.1 – Copy floppy games disks!
- 2185 RE-ORG – Makes the hard disk a lot faster!
- 4443 DISKSALV II – Fix damaged floppies & hard disks!
- 4591 FILER 4.5 – Files & directories Dopus Clone!
- 4697 AMCDFS V2.40 – SCSI CDROM?? This is essential!
- 4702 IDE FIX 97 – IDE CDROM?? This is essential!
- 4189(AB) MUI 3.8 – MUI programs need this to run!
- 4566 NEWICONS 4 – Colourful 256 colour 3D icons!
- 4512 SAMMY CLI UTILS 1 – Playstation emulator, & CLI utils!
- 4698 SAMMY CLI UTILS 2
- 3898 TEXT ENGINE 5 – Ultimate in PD Word Processors!
- 4700(AB) PRINTER DOMINATION – Drivers for Epson & HP printers
- 4701 WILD ANIMAL CLIP ART
- 4620 GERM KILLERS 3 – Kill all viruses off your system!
- 4369 BARS & PIPES PRO – MIDI sequencer, released as PD!
- X4663 AMIGADOS GUIDE V2.5 – Every aspect of Workbench!
- 4696 SUBTITLER V2.17 – SMPTE titler & EBU test paterns!
- 4699 GATEWAY 2.4 – Effective password security system.
- 4713 BCARD – Business card maker, very good!

COMMERCIAL QUALITY GAMES

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- 4068 ALIEN BASH II – Commercial quality killing game!
- 4308 ROACH MOTEL! – Fantastic funky platform game!
- 4322 LAST REFUGE – Crazy space invaders with Vikings!
- 4348(ABCD) ANGST DOOM – 4 disks of DOOM blood and gore!
- 4410 SENSIBLE MOON SOCKER – Sensible Socker on the moon!
- 4505 BREED 96 – Command and Conquer Clone!
- 4536 CAPTAIN CUSTARD – Shoot 'up with missiles on ya tale!
- X4331 SUPER BALLZ 2 – Marble Madness, Marbleouse!
- X4665 TELLY CHUBBIES AGA – Blast the cute Telly Chubbies!
- 4677 BODE RUNNER – Lemmings / Loadrunner quality mix!
- 4673 OFL FIGHT – Playstation style Alien begt'em up!
- 4670(ABC) PD SUPER DOOM – PD doom clone, the full game!

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- 4625 PSX BUSTER - Playstation cheats!
- 4660(AB) Ms.c MUSIC DISKS - Retro!
- 4690 Ms.c MASTAZ 98 - Slamin, Bangin!
- 4655 ENIGMA: SADNESS - Great music
- 4610 ESSENTIAL BEATS - Sound samples
- 4712 ELECTRONS AT WORK - Amazing!

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Features: TFX: Quickstart Guide/Techniques & Tips etc., Suzanne: The Portable Amiga
Inside: Fusion Mac Emulator, Civilization, Mk II EZ Tower, Storm C

NOVEMBER 1997
Disks: Draw Studio 2 Lite, AIR Link Software
Features: D.I.Y. AIR Link, Aladdin 4D V5.0, Hydra A1200 Ethernet, Sensible Golf
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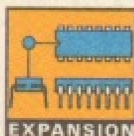
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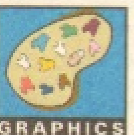
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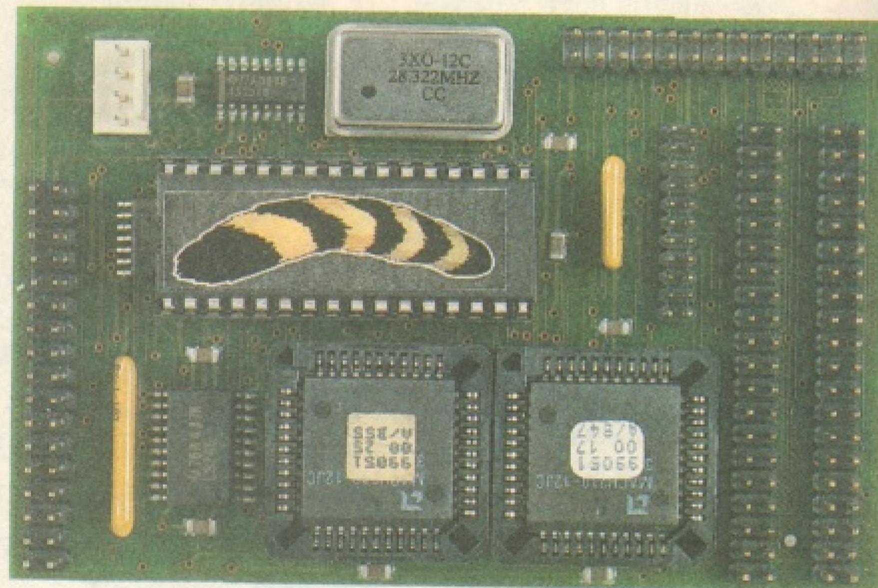
Cryptic compiler



1. I am currently studying Computer Science. All of the coding is carried out using my Amiga and tools such as Dice and GNU C. The finishing touches such as graphic interface and so on are finally done on PCs at college using Borland C++. Next year the course will cover C++. As GNU C can compile C++ code, I need help as to the command line used for compiling. I've read the documentation that's supplied with GNU but to no avail. I would appreciate it if you or some one out there could help me. 2. I also have minor problems with a hard drive that I recently purchased. The hard drive in question is a Seagate 1.2 Gb drive. The problem with the drive is, that it won't boot from cold. I have to do a warm reset. This is a minor inconvenience and one I can live with.

An, Co. Meath

1. The GNU C/C++ compiler is a direct port from UNIX. Consequently, it has a rather arcane user interface, with hundreds of command-line switches and parameters. However, if the correct front-end to the compiler is called, all the tedious setting of options is performed by the compiler itself and an appropriate environment is created for whichever language you wish to use. When the compiler is invoked with the gcc command, it gets set up for standard C mode; when called with 'g++', C++ mode is set up. In addition, correct naming of files is important to make the compiler process a particular file as C or C++ source code. Files that are named with a suffix '.c' get compiled as C; files suffixed with '.cc', '.cxx', '.cap' or 'C' get compiled as C++. This behaviour may be overridden with the -x switch. For example, entering the command 'g++ -x c++ source1.c source2.cpp -o myprog' will compile the two source files both as C++ (even though the first is named incorrectly) with the C++ default settings and will produce an executable called 'myprog'. This is not the place for a detailed discussion of GNU. For information that is more digestible than the documentation supplied with GNU C, point your web browser at http://www.ninemoons.com/GG/docs/GG_toc.html.2. The reason you cannot boot your machine from a cold reset (ie; switching your machine on) is because your hard drive does not get up to operating speed in time for the system to recognise it. When you perform a warm reset (e.g., pressing CTRL and the two Amiga keys), the hard disk is already spinning so is able to reach the correct speed in time. This is quite a common problem, especially when there are multiple devices connected to the IDE interface. There are two possible solutions: the first and simplest solution is to upgrade your KickStart ROMs to version 3.1. OS3.1 has a longer reset delay built-in to overcome this very problem. The second solution is to construct yourself a circuit which will create a longer reset delay and connect it into your Amiga's reset line. If you are handy with a soldering iron, take a look at aminet/hard/hack/bootdelay.lha.



▲ Use fast HD floppy disks with the Catweasel controller.

Amiga DTP wizard



I am a pensioner and am attending a computer class locally. We use PCs, and I have been making greetings cards using Microsoft Publisher.

This prints four pages on a sheet of A4 paper in such a way that when the paper is folded there is a picture on the front, a second picture on the inside left, a greeting on the inside right and my name on the back. I have an Amiga 1200 at home, and I would love to purchase a program that would do all this for me on my machine. I have two publishing programs, PageStream and PageSetter, and neither of these will do all four functions at once.

Can you please tell me if there is any such program available on this market at present and where I could obtain one.

Sidney Ray, Surrey.

InitCD problems

We have received several reports of problems when trying to launch the InitCD script on recent cover CD's. If InitCD fails with the error message: ':C/UpdateCopy failed (return code 1634953583)' then perform the following: boot up your machine, insert CUCD24 in your CD drive, ppen a shell window and enter the command:

```
copy CUCD24:libs/asyncio.library libs:
```

This problem is caused by the tool UpdateCopy which is called by InitCD. UpdateCopy requires the latest version of asyncio.library. If you have an older version of this library installed on your system, asyncio.library will load this instead and fail. The above command will copy the correct version of the library to your system.

I am unaware of any Amiga software that is specifically for creating greetings cards. But it is possible, through ARexx – the Amiga's more powerful equivalent to the PC's wizards – to 'program' other applications to let you do so.

For example, it is possible to write ARexx scripts or macros for, say, Wordworth or PageStream, that asks the user for a greeting message and a picture to use and then will create the card in the manner you have described. If you don't feel up to the task of programming it yourself – don't worry. The chances are somebody has already written the very script that you need.

There are scripts available on the Aminet, for example, to create business cards, calendars, CD inlays, etc. Take a look in the directories text/print, text/dtp or util/rexx. If you do not have access to the internet you could try contacting a PD library to enquire if they have any collections of such scripts. Another good place to try would be your local user group.

Troubled driving

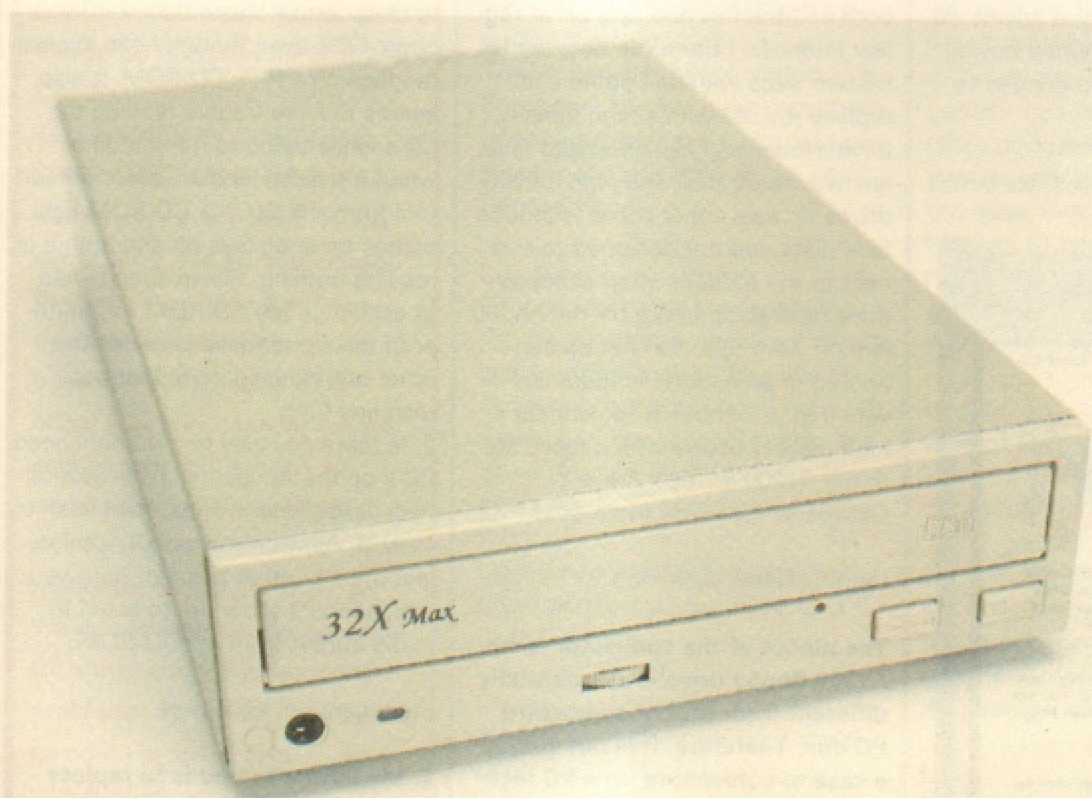


I have recently installed a WDC 3.5" 210Mb hard disk into my Amiga 1200 with a Viper 1230/28Mhz and 2Mb Fast Ram. I have been an Amiga user since 1992 and have used the same hard drive as an Overdrive PCMCIA device for years, but decided to move it to the internal IDE port. I purchased the correct cable from Power Computing for this, and I fitted, re-partitioned and formatted the disk correctly. This far, everything seems fine. After successfully installing WB 3.0, I began to re-install my software, and there my problems started.

Everything installs fine, and appears in the relevant directory as it would normally. Some software works just fine, but others, e.g. DOPUS 4 refuses to work. When I try to load it from CLI, I get the message: bad loadmodule heap. This also happens when I try to use other software, but not everything, which has confused me. I telephoned Power, and they suggested that I changed the MaxTransfer rate using HD-Toolbox, which I did, and even though I re-formatted the drive, the same thing happened! know that you have loads of enquiries, but this problem has rendered my computer almost useless, so I would appreciate some help

Tim Hutchings, via e-mail.

There are two obvious probable causes of your hard drive problems. The first one is, as Power pointed out, the MaxTransfer setting on each of the hard drive partitions; the second possibility is your power supply. 1. The MaxTransfer setting, contrary to popular belief, is not a rate but a size. It tells your filing system how big a chunk to grab from the device in one go. You should not have to change it, except for some older IDE drives. These type of drives were never designed to have blocks greater than, say, 128K read from them at once. When you try to do so, the data gets mangled. This fault is an intermittent one, since it only occurs when reading large files, and the symptoms tend to be things like bad hunk errors, etc. This could well be what is causing your problems. The solution is to use HDToolBox (or an equivalent) to modify each of your partitions. First try changing MaxTransfer to 0x1FE00 (in decimal this is 127.5Kb). If it still does not work, try 0xFE00 (63.5Kb). The procedure to do this is as follows: Start up HDToolBox, select Partition Drive and click on your first hard drive partition. Now check the box marked Advanced Options, select Change.., enter the desired value for MaxTransfer into the string requester (and press Return) and click OK. Repeat this for the all the remaining partitions. When done, click on OK and then Save Changes to Drive. That's it. 2. There is a law in computing known as Pournelle's Law: if you have a computer problem, check your cables first. There is an equivalent of this which applies to the A1200: if you have a problem, check your power supply first. The weedy PSU shipped with the A1200 is designed to cope with at most a 2.5" inch hard drive and a smallish memory expansion. 3.5" hard drives cause problems not only because of the greater power load in general and the larger amount of heat to be dissipated, but because the power connecter on the internal IDE interface of an A1200 is not designed to take the load, either. The solution is to get an uprated PSU and power the hard drive directly from it, not via the motherboard.



▲ Save yourself the hassle of swapping 750 floppy disks – with a CD-ROM drive.

Keyboard bugs?



Some time ago I bought an Eyetech EZ-Key keyboard interface and installed it. Everything seemed to work fine or so I thought. Only recently when another Amiga owner was using my system did he make me realise my keyboard adaptor was malfunctioning. The problem seems to be that the adaptor will not accept two keys pressed at the same time, for example if I'm playing a 'Doom' style game and I press a key to walk forward, if I then press a turn key the player stops walking forward and turns.

The keyboard adaptor will not accept two commands at the same time as my original keyboard did, and this does not only occur in games, but serious applications. I originally thought this was an inherent fault with all keyboard adaptors, which is why I did not realise there was a problem, but a friend showed me his adaptor (from a different company) didn't suffer from this and worked without fault on the applications my adaptor had trouble with, and his cost less than half the Eyetech solution. I have also tried three alternative keyboards, one of which was an Amiga 2000 keyboard



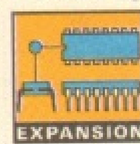
▲ Or page 98 stunner – a topless, Western Digital hard drive.

and they all fail to work correctly with the EZ-Key. I tried these keyboards with my friend's adaptor and all of them, including my own, worked perfectly. So what could be the problem? Is there a software solution or is the keyboard adaptor at fault?

Richard Chapman, via e-mail

This is not a fault as such with the Eyetech keyboard adaptor; it's more of a feature. The interface does not handle simultaneous keypresses in the same way that the A1200 keyboard does. This is inherent in the interface itself: it does not matter what type of keyboard you connect it to. Similar problems occur with the Micronik keyboard interface. There is no solution to this problem, other than buying a different interface. The Ateo keyboard interface, for example, does allow multiple keypresses. Ateo Concepts products are distributed in the UK by White Knight Technology, who may be contacted at 01920 822321.

Please, no more!

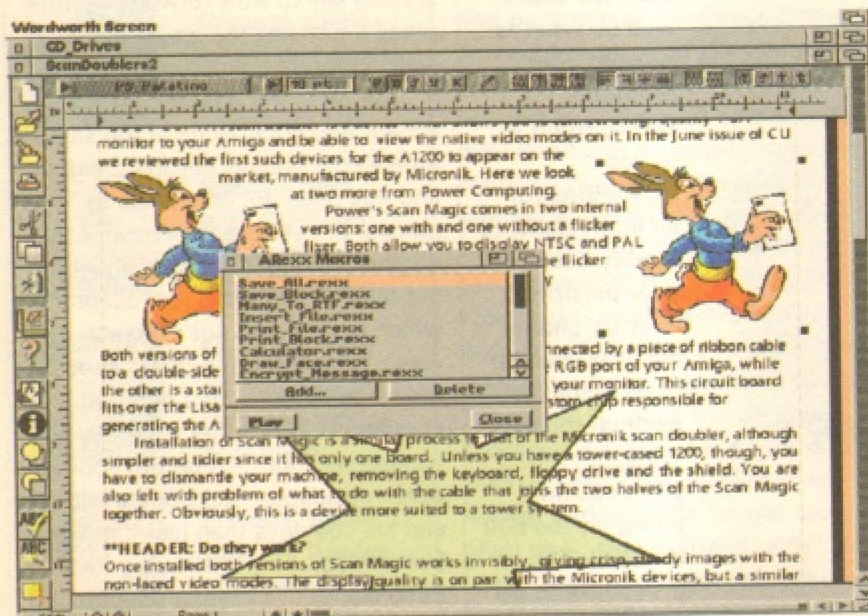


I know that you consider A500 dead and that there are only a few people using one these days, but I still use it.

So: 1. I've heard that by setting specific jumpers on A500's board, the A500 could "see" the extra Fast RAM as Chip RAM – if you have a 1Mb Agnus, that is, which I do. Could you tell me which jumpers are they? 2. In order to upgrade from OCS to ECS, which chips do I have to replace? Are there any consequences from such an upgrade? 3 . I've decided to buy an accelerator (either Power Computing's Viper 520CD or CSA's Derringer 500/2000). Could you give advice on what should I look for when buying an accelerator? (Do you happen to know the above two?)

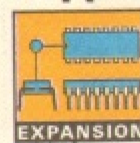
Georgios Marinis-Artelaris, via e-mail

The reason we consider the A500 dead is that it is now over 11 years old and has limited expansion potential simply because very little hardware is produced for it any more. I will answer your questions, but please, after this, no more A500 questions. 1. Yes. This is possible, but it actually requires physical modification of the motherboard (cutting of tracks, soldering, etc). Look at, for example; aminet/hard/hack/a500chip.lha. 2. You must replace the Denise chip with an ECS Denise (chip number 8373). 3. The Viper 520CD is good (see review in CU December 97). But ask yourself this – even if you perform the modifications above and buy a 520CD, you will still have a dated and underpowered machine, limited to only a 33MHz 020, 8Mb of Fast RAM and no AGA. A realistic minimum specification for an Amiga these days is a 25MHz 68040. Instead of spending money expanding your A500, why not buy an A1200? They are available at absurdly cheap prices second hand, and even retail new at well under £200. You would then have a machine which is still supported by the market and which has vastly more potential.



▲ ARexx Macros – the Amiga's better Wizard equivalent.

HD (How Denser) floppies?



I need (want) an HD floppy drive for my A1200T. I find that the faceplate Eyetech supplied me with for my internal floppy drive is both unattractive and falls off at regular intervals. I therefore decided to kill two birds with one stone and replace my df0 with a high density drive. However, I can't seem to find any way to do this. The high density drives on sale either come without a face-plate, are not designed to connect to the A1200's internal floppy drive connector, or are for the A4000 (which, I am told, can not be connected to an A1200). Is there any way that you know of to connect a high density floppy with a faceplate to my A1200 as df0? Will a Catweasel allow me to do this?

Gerald Mellor, via e-mail

The pinout of the connector to an A1200 floppy drive is substantially different from that of a standard PC one. Therefore, it is not simply a case of connecting up a PC high density drive and hoping that it will work. It is actually possible to modify a PC drive to work with the A1200's floppy drive interface (some of the later A1200's were shipped with an HD drive) but the 1200's I/O hardware is not up to the task of reading from an HD drive – they can only manage it at half speed. A better solution is something like the CatWeasel or Eyetech's DiskPlus system. These are both complete replacements for the A1200's floppy interface, and both allow the direct connection of and full performance with PC HD floppy drives.

The CatWeasel is quite an extraordinary piece of kit. Not only does it give you the benefit of connecting cheap, fast and more capacious HD floppies to your Amiga, but it also allows you to read over 20 different file systems, including all PC and Mac formats (even the weird multi-speed, single-sided ones). It is a real boon to the emulation nut (sorry, retro enthusiast) as well, being capable of reading things like CBM 1541 and Apple IIe disks (providing you have a 5.25" drive).

Seedy ROM questions



I have a few questions to ask you.1. I am having troubles with my CD-ROM. I have an A1200 with 10MB RAM, a 2.1GB hard drive and an LG Electronics 16 speed CD-ROM placed in an Eyetech tower using the Eyetech 4-way buffered IDE interface. I am using a driver called "cd.device" and the CD++ filesystem to run the CD-ROM. My main problem is that the CD-ROM refuses to read certain files on some of your cover CD's even though I can access the files on a PC's CD-ROM. It also seems to have trouble reading the CD's while trying to run InitCD or when it tries to load an icon's default tool from the CD, the CD-ROM light comes on and stays on although it is reading nothing. I have already had to exchange my CD-ROM for another of the same make because the other one refused point blank to read any CD's.

2. Is there any way to read enhanced CD's on the Amiga as I have several with QuickTime movies that I wish to view. 3. Apart from your DIY option, is there any other piece of hardware which would allow me to listen to audio output from my CD-ROM.

Peter Lamont, via e-mail.

1. My advice to you is to replace the driver software for your CD-ROM drive; the "cd.device" is an old system and not best able to

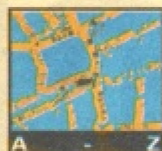
cope with modern CD-ROMs and drives. You should try to get the "atapi.device" (as shipped with IDE-Fix) and for a filing system get either CacheCDFS (also shipped with IDE-Fix) or AmiCDFS2. Both of these systems come supplied on our cover CDs every month (IDE-Fix albeit in demonstration form), so there is really no excuse for not upgrading. 2. What do you mean by enhanced CDs? If you update your software as above, you will find that should be able to read all the standard types of CDs.

If you wish to be able to view QuickTime movies on your Amiga, you will need some software like QT or CyberQT (both available from the Aminet in the drawer gfx/show). 3. You don't actually need any extra hardware to be able to listen to the audio output from your CD drive, just the correct cable. The audio mixer circuit takes account of the fact that the output levels produced by your Amiga's audio and the CD's audio are not the same, and mixes them equally. Such circuits are available from, for example, Eyetech and Power Computing.

How to write to Q&A

You can send your queries (or tech tips) to Q&A, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London E14 9TZ or preferably e-mail: q+a@cu-amiga.co.uk. We can accept letters or text files on floppy disk. Please do not send an SAE. WE CANNOT RESPOND DIRECTLY TO QUERIES BY POST OR OVER THE PHONE OR E-MAIL, nor answer every Q&A we are sent. Sorry. We do appreciate that you may have a serious problem and until Amiga International re-open a UK office you may have no-where else to turn, but we get so many questions we simply don't have the time or resources to answer them all. We do our best to use letters in Q&A that answer most common problems, so even if your own question is not answered you may find an appropriate solution here.

A to Z



Lithely, lovely and loquacious: three verbs which are rarely applied to John Kennedy... they do begin with "L" though.

L is for...

Lab
An AmigaDOS command which is used inside scripts. It defines a label, which is effectively a location to which it's possible for the flow of control to jump to. It's used with the SKIP command: SKIP will jump to the label.

LAN
A Local Area Network is a collection of computers connected, usually via cable, to share files and printers.
The Amiga can be networked with other Amigas and computers by means of the TCP/IP protocol.

Library
A set of program functions which can be shared by one or more programs. Libraries exist both in the Kickstart ROM, and on disk.

Lightpen
An alternative input device to the mouse. Lightpens are used by holding them up to the screen, whereby the computer can calculate their position.
The Amiga hardware supports lightpens, but no-one uses them because they have quite a low resolution, and they make your arms ache.

Lightwave
One of the most successful Amiga programs ever, Lightwave is a professional quality image rendering program from NewTek, makers of the Video Toaster. It's been used in films and in almost every sci-fi TV show you can think of.
Lightwave is also available for other platforms, but it owes a lot to the Amiga.

Linux
A version of the powerful multi-user, multitasking UNIX operating system. It and NetBSD are available for the Amiga.

List
The most powerful AmigaDOS command. List has a multitude of options, and all can be useful from time to time. All List does is create a list of the files present in the specified directory, but it's so flexible. You can list files of a certain age, include dates, examine attribute files and list directories recursively. This makes it ideal for generating text files which can be processed by other AmigaDOS scripts or ARexx programs.

LMB
A TLA for "Left Mouse Button". The Amiga can actually cope with three mouse buttons, although the third is rarely used. If your mouse does have an extra switch, PD utilities are available to make use of it: it can be handy having it act as a SHIFT key when dragging Workbench icons for example.

LoadWB
This AmigaDOS command usually towards the last line in the startup-sequence script which the Amiga loads and executes on booting. It loads and activates Workbench, so don't leave it out. It also has a "secret" option: LoadWB -debug will add extra commands to your Workbench menu. Go on, try it: but save everything first. If you happen to have an ASCII terminal connected to your Amiga's serial port and operating at 9600 baud, so much the better.

Locale
One of the original Amiga Workbench floppy disks, Locale contains a Preferences editor which makes it possible to specify some information for localising your Amiga: you can alter some programs and Workbench routines to appear in Italian or Spanish for example.

Lock
One of those AmigaDOS com mands you will probably never use. Lock asks AmigaDOS to prevent writes to a disk drive.
Why is this useful? Potentially it could be used when debugging a program, I suppose.

Logical Operators
These are the basic functions of Boolean maths: essentially the core of all microprocessors and computers.
There are four basic operations: AND, OR, NOT and XOR or eXclusive OR.

Loops
In programming terminology, a loop is a sequence of instructions which can be repeated one or more times.
For example, if a program has to perform a hundred identical calculations the programmer can choose to write out the same calculation one hundred times, or put the calculation in a loop and execute it one hundred times.

Loopback
By "looping back" an output to an input, it's possible to test or debug a system. For example, you might use the Amiga's serial port in loopback mode to test a communications program: but only if you were bored.

Low-level Language
A programming language which is better suited to computers than people. A good example is Assembler, which has a lot of very, very basic instructions. Each instruction can be directly translated to a few machine code instructions. Assembly language programs therefore run very quickly, but take an age to write and debug.

Lurk
To take part in a newsgroup by only watching and reading, never posting. Lurking is fine, but it's more fun to take part in conversations – unless they are very sad, such as those on the alt.digitiser newsgroup.



Backchat

Got an opinion on Amiga Inc's big plans or anything else? Email your comments to backchat @cu-amiga.co.uk or post them to the address below.

Backchat
CU Amiga
37-39 Millharbour
Isle of Dogs
London E14 9TZ

Cock up

Look, I'm sorry but it has to be said: Amiga inc are making a cock up. I have owned an Amiga for three years knowing as I do that Intel make crap chips. FACT. If Amiga Inc plan to to make x86s I may as well go and build myself a PC now. By my count I can build a PC for £330 inc VAT. What we want is a budget version of phase 5's philosophy: a single G3 unit with a decent graphics card and sound and other features that we are accustomed to for about £600-£700. If Apple can do it Amiga can. This message from Amiga inc fills me with despair. Hoping for something better,

Richard Faulkner, via email

Shape up!

Congratulations on becoming the world's,best selling Amiga magazine, but I must admit that I am disappointed in you. OK, so you are the world's best selling Amiga magazine, but still the magazine could be a *lot* better! The June 1998 issue is one of the worst I have seen for a looong time. Let's start with the cover page, it's awful! Who has made this awful, childish, poor Spaceboy drawing? It looks like something from the '70s. Wake up, this is the '90s!

The four pages about the Reality Game Engine would have been more than enough, but then comes Tony Horgan with another eight (!!) pages about the same boring stuff. I'm sure he has put a lot of work into it, but it's not the kind of stuff I want to read. Your August 1997 issue about coding and StormC was very good, but this time it was all just boring.

And it continues, with three pages about Spam! And then comes the two awfully designed pages about World of Amiga. I wonder if the guy who made this article may be colour blind? I think you should give this man a course in design quick as hell, or sack him even quicker. The Screen and Tech Scene parts have good design though, and if all the articles in the magazine had been like this I would be much more satisfied.

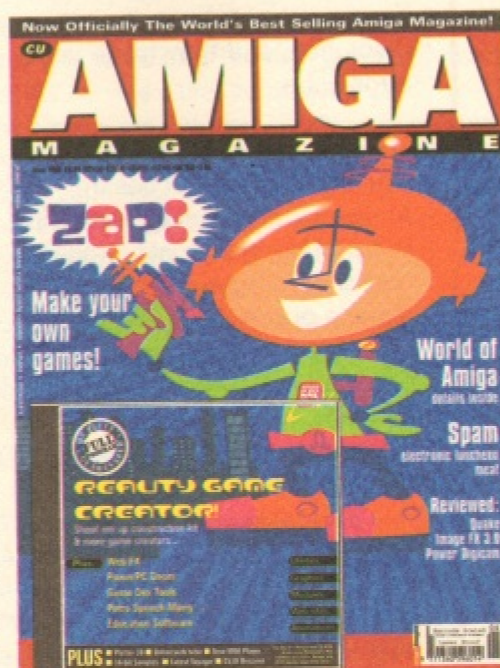
I really looked forward to the Scan Doublers test, because then I thought I finally could decide which scandoubler to buy. But you only tested the Micronik Scan Doublers, so it didn't help me much. Why didn't you test the ScanDoublers which Power Computing sell? They even have versions with flickerfixers. Micronik don't. And what about the ScanDoublers Eyetech sell? I am just as confused.

As you might see there are many things you can write about instead of spam and how to make games. A test of the different 4way-IDE interfaces Eyetech, Power Computing and Blittersoft are offering would be nice. Remember that there are a lot of people out there that have to upgrade their Amiga 1200 a bit. I also think you could start to write some articles about the demo scene, at least after big events like TP, TG and Asm. Would it hurt so much to tell the rest of the world about the revolutionary productions from demo partys, like Rise by TRSI from TG98? I don't think so, it would at least be better than Spam. But it seems like Petro Tyschtschenko and the commercial Amiga market don't like the demo scene, which really is a pity. I think I have read that Petro didn't like the demo scene because it didn't help the Amiga, he would like us all to make games instead. That selfish Petro-!#§##! :)

Torgeir Amundsen, Norway.

Thanks for your frank comments Togeir. In order for CU Amiga to be a successful magazine (which is quite a feat in the Amiga market these days) we try to cover all aspects of Amiga usage. This does include coverage of the demo scene, not least in our regular round-ups of the best demos on our cover CDs. It also includes a diverse range of alternative areas and inevitably it's not all going to appeal to everyone at the same time. Our readership varies enormously in age, interests and aesthetic taste.

With any luck, sometime soon there will be a big enough pool of Amiga users to warrant magazines that can focus on specific areas and groups of users. At the moment that's a pipe dream. We have a hunch that "Amiga Scandoubler Magazine" wouldn't fare very well in the current climate. As for why we didn't review every scan doubler under the sun in the same issue, it's simply because they weren't all available at the same time. Rian Hughes supplied the cover illustration.



▲ Childish cover or a classic take on 50s retro cartoon style? Rian Hughes' June 98 CU Amiga cover.

Tell the world

Everybody keeps going on about how others need to be

informed that the Amiga is not just a glorified games machine and, on the contrary, is quite capable of professional use. Well I've come up with a simple way of letting people know this. So simple in fact that I can't think why I've not thought of it before!

How many people out there use their Amigas to produce documents etc that others are going to see? Quite a lot I would imagine. I know I do, from letters to posters and spreadsheet charts!

"Why then did they tell us they would be going ahead with a dual PowerPC and 680x0 CPU before doing a U-turn? "

Well, what I've started doing is including a footnote, in 8 point text so it's visible but unobtrusive, on all the documents that I produce which states that "This document was produced on an Amiga 1200 using..." and then I enter whichever software package was used.

Simple eh! And maybe, just maybe someone who reads it will think "Oh I didn't realise it was possible to produce something like this on an Amiga" and then begin to look further at our machine. Every little helps. By the way, unfortunately this was written at work using a Plastic Contraption as my Amiga is not yet Net connected!

Thanks for a great magazine.

Dave Le Huray, via email

Where to now?

One thing I pride myself on is not being one of the PC-owning sheep. The will and ability to weigh up the facts and make an educated decision is something I hope to never lose. However, I must confess in the light of Amiga Inc's recent announcements, I'm looking for some advice.

To be honest I'm more than a little confused. For example, Amiga Inc say they will have this amazing new machine in 18 months or so. We've heard that before haven't we? Then there's this PC-based interim platform which I don't quite understand either. Is it just a PC with an Amiga on a card? If so what's the point of that? Leaving that aside, there's still the matter of Amiga Inc/Gateway's ability to keep to their word.

Everyone seems to be in agreement that Gateway never say something until they know it's fact, and barely release any details of forthcoming products until they are almost ready for release. Why then did they tell us they would be going ahead with a dual PowerPC and 680x0 CPU standard just a few months before doing a U-turn? And what is there to say that they don't just happen to change their minds on their latest plans in a few months?

So, do we hold on to our machines and leave them as they are until a new wonder machine appears? Or, do we carry on upgrading as and when possible and keep saving for that PowerPC card? Or do we swear allegiance to another as yet unreleased machine (the pre\Box)? Or... what? Help please!

Dan Chamberlain, via email

It is confusing isn't it? Flick to page 23 for a distillation of the facts and the latest developments.



▲ Sega Dreamcast: a new console with a $500m marketing budget.

Be U Amiga?

I purchased the July issue of CU Amiga on account of the WOA show report and the Be feature. I felt a strong pro BeOS message throughout the mag which is no bad thing given the similarities between AmigaOS and BeOS.

Is there any chance of CU Amiga going dual format, covering Amiga and BeOS? There must be plenty of room on the CD-ROM edition to include BeOS apps as well. It's a nutty suggestion but I'm sure you can see the advantages.

Darren Debono, via email

No, is the short answer. If BeOS does turn out to be used as a base for the new AmigaOS then there wouldn inevitably be some connections along the way, but so far Amiga Inc have still not named their OS development partner, so we're still speculating about Be's significance at this stage. As it stands there's no reason to introduce Be-related articles into CU Amiga as a regular thing.

A New Era

So Amiga Inc have finally spilled the beans about the next generation Amiga, and what should we think about it? I'll tell you: it's fantastic! The potential is enormous. This may mark a new era in computing. But the success of the next generation depends on four things in my opinion:

- That Amiga Inc market it properly *worldwide*. Sega is planning a $500 million US and European launch for the same time that the first next generation Amigas hit the streets. This might be a bit much to ask for, possibly not neccessary, as the Sega console will be very underpowered compared to the new Amiga. But $100-200 million is needed to ensure it's noticed.
- That it's available in all high street chains. If people can't find it, no one will buy it. It will be a hard fight for shelf space next Christmas with the Project X consoles, Sega's Dreamcast, the next generation WebTV with a powerful 3D chipset, the Playstation 2(?), the Nintendo 128(?) and low cost PCs.
- Killer software availability. Software sells hardware, and the next generation needs quality software, both games and serious. To achieve this, developers need to begin development now. Amiga Inc need to actively persuade developers to develop for the Amiga, and co-funding should also be considered, as software is crucial.

Some people seem to think Amiga Inc killed the Amiga by ditching the existing OS, but I have to ask you: Do you really care if the OS you are running is the original AmigaOS, if the new OS is as effective and easy to use? And the Amiga community will still be here, something I think is the most important reason for staying with the Amiga, both now and in the future. And it will still be called an Amiga. The spirit is still there! Save your pennies! I am!

Vidar Langberget, via email

Wot no stickers?

Both me and a friend who get CU Amiga on subscription didn't get a sticker with the mag in the post. Are we alone ? Nice to meet you at the WOA. Very impressed with all the hi-res SVGA monitors in use. I want one now.

Someone forgot to stick them in. You should find you have your sticker with this issue. As for the future of CU Amiga, we'll be reflecting what you, the Amiga users, want from us. If this next generation Amiga comes out and is a massive hit, then our coverage will change accordingly. If it flops or (shock horror!) doesn't turn up in time (or at all) then we'll keep on with coverage of the "classic" Amigas. We don't have any plans to split into two magazines or launch a new Amiga mag in the immediate future.



Is CU Amiga going to stay with classic Amigas or go half and half with the next generation or will there be a new mag for the new machine?

Gareth Maley, via email

First of all, let us appologise to all subscribers for the missing stickers.

PowerPC is the future

It is quite hard for me to stay with the Amiga as I am only 14 years old and I live in Australia. I play games all the time against all these PC users and almost always beat them although it is getting difficult to do this because 95% of PC games are not out on the Amiga!

Since the Amiga has PowerPC and will be getting better all the time, why don't the people do something? If I could program I would do it! I became a play tester for Westwood after I became best in

Gates gag

This month's Gates gag comes from Aubrey Elliott. Can you do better than this?

Bill Gates dies in a car accident. He finds himself in purgatory, being sized up by St. Peter.

St. Peter: "I'm not sure whether to send you to Heaven or Hell. After all, you enormously helped society by putting a computer in almost every home in America, yet you also created that ghastly Windows '95. I'm going to do something I've never done before in your case; I'm going to let you decide where you want to go. I'm willing to let you visit both places briefly, if it will help your decision."

Gates: "Okay, let's try Hell first."

So Bill goes to Hell. It's a beautiful, clean, sandy beach with clear waters and lots of bikini-clad women running around, playing in the water, laughing and frolicking about. The sun is shining and the temperature is perfect. He's very pleased....

Gates: "This is great! If this is Hell, I really want to see heaven!"

So off they go. Heaven is a place high in the clouds, with angels drifting about, playing harps and singing. It's nice, but not as enticing as Hell.

Gates: "I think I'd prefer Hell."

St. Peter: "Fine, you'll be there in an instant."

Two weeks later, St. Peter decides to check on the late billionaire to see how he's doing in Hell. When he gets there, he finds Bill shackled to a wall, screaming amongst hot flames in a dark cave, being burned and tortured by demons.

St. Peter: "How's it going?"

Gates: "This is awful! It's nothing like the Hell I visited two weeks ago! What happened to that other place, with the beautiful beaches and the scantily-clad women playing in the water?"

St. Peter: "That was a demo."

the world at Command and Conquer. I have had a beta of Command and Conquer 2 for a little while, and in my opinion, this is the best game ever. Now, put two and two together and the Amiga becomes a hit all over again. Ultima Online would give us a kick into multiplayer gaming also!

Please do something ClickBOOM (or whoever else)!

Andrew Werchowiecki <gameguru@vianet.net.au>

An Amiga for all

The Amiga has always been a graphics and video computer. The new Amiga planned by Amiga Inc will be a spectacular multimedia machine. The web is full of sounds and animations.

In amongst all this fun, disabled users are in danger of being forgotten. At one time, the Amiga could be used with a Concept keyboard, for instance. Is this still true? The Amiga's Shell makes it possible in principle for a blind or partially sighted user to operate the machine without graphics. Almost all Amiga programs can be started up from the Shell. The program Scripit (on Aminet) should give access to any window, button or gadget in any program, purely from a verbal command. But this only works if the screens and windows have names, so that Scripit can find them.

So, a plea to programmers: name your windows so that the program can be used without a mouse. Web designers, please do a text only version of your pages. Let's have a computer which is friendly to all users.

Don Cox, doncox@enterprise.net

A true Amigan?

Recently, there has been some discussion on the Internet about who makes a true Amigan or not. A small minority of people in the Amiga community seem to be obsessed with the idea that the Amiga should be the only computer in the world and wouldn't accept there are other computers, even consoles such as the PlayStation.

Some even say the Amiga is excellent at everything and no other computers can match it. This may have been true eight or nine years ago but this kind of thinking is, in my opinion, extremely narrow minded and almost frightening. I believe every computer platform is good at some things and bad at others, and I see no reason whatsoever not to take advantage of these.

Wake up! It's time to accept that the Amiga is not number one. It's time to accept that other platforms can run rings around an Amiga on certain tasks. It's time to accept that it is stupid to blandly state that non-Amiga owners (or non-Amigans?) are stupid and don't know a thing about computers; does that makes Mat Bettinson stupid? I think not.

It's time to realise strong and weak points of our Amigas, and other computers and combine them – eg, Siamese for instance, or at least learn them and suggest/implement these ideas into making the Amiga a better, more competitive computer.

As for saying who is a true Amigan or not – that is up to the individuals themselves, not for others to judge them; people have no right to judge others in any way. Remember: The Amiga is *not* a religion nor it is perfect.

Kyle Sterry, via email

Blimey! That's a provocatively well-balanced view of things!



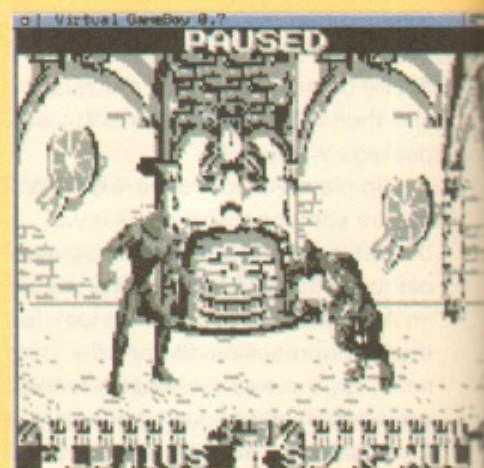
▲ **Westwood Studio's Command and Conquer: Tiberian Suns. Amiga version please!**

To the Point...

SWOS revitalised

Thanks for revitalising one of my favourite Amiga games ever: SWOS! Seeing all the new World Cup editions of PlayStation and PC football games coming out left me and my best mate feeling a bit behind the times. Then I noticed the update cover disk on your July issue! Now I don't care if England win or get knocked out at the first stage. Well, that's a bit of a lie, but you get the point.

Nick Sinclair, East Anglia



Killer Instinct

I just had some fun playing Killer Instinct for Gameboy on my Amiga 1200 tonight. The game works just fine with Wzonka-Lad, and only suffers from a few small graphical problems with Amiga VGB. I'm attaching a screen grab of it running on Amiga VGB. I was suprised at the high quality of the game, despite the small screen size and that it is grayscale. In Wzonka-Lad it even runs at a playable speed on my 50MHz 68030.

Mathew R. Ignash, via email

Yeah, it looks just like the coin-op doesn't it?

Mad scientist

I am looking for users with like interests. I'd like to find other users with a scientific bent (notice my e-mail is madsci, which stands for my initials M.A.D. and the fact that I practise the profession of chemistry).

Mark Dekeyser, Canada
email: madsci@sentex.net



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Points of View



Time for a few more opinions... please note that the views expressed here are not necessarily those of CU Amiga.

Get your story straight.



WOA came and with it came The Big Announcement. Sure enough it was big, but it was also a total mess. Amiga Inc. should have had plenty of time for all the details, but seemed so far off the ball when it came to what the likely impact would be that it was humourous. The implications of it were to say the least heartening – the possibility of a serious revival of the Amiga suddenly looks rather good – but they were rather obscured by the unseemly mess of a presentation.

The fuss that rose from the announcement was in fact largely vapour; the problem was that the information on general press sources such as CNet on-line appeared to be at odds with the information presented at the WOA conference. A telephone conference link up for non attending journalists world wide was so close to inaudible that those who listened in seemed to have heard a different press conference than the rest of us.

The Internet was buzzing with the false news that Amiga was going Intel, and the main source, the CNet news report, seemed to be changed every few hours without explanation. It was not until the story was posted on the CU Amiga website late that night that the full facts were widely available.

Further problems stemmed from the fact that Amiga Inc.'s announcement appeared to be the end for any Amiga development for the next two years. All of this was unnecessary – by the time of the evening press release, AI had added a line about working with phase5, and by the end of the World of Amiga weekend, there was a lot of talk about keeping the Amiga Classic line alive and giving Amiga owners something to keep them going. All this really should have been in from the start.

Problem is, Amiga Inc. don't know who to talk to. They seem to have been taking advice based more on its proximity to Sioux City than its usefulness. They should have talked to the major players such as phase5, Haage&Partner and Index well enough before the announcement that they would not have had to spend the weekend in damage limitation, and had they chosen to discuss the announcement with the Amiga press we could have saved them no end of bad publicity – after all we know what this market is like and how people will react. Amiga Inc. at last have a PR man, Bill McEwen.

"Problem is, Amiga Inc. don't know who to talk to. They seem to have been taking advice based more on its proximity to Sioux City than its usefulness."

Hopefully he is going to help AI with their presentation, but he isn't going to be able to advise them on the market. Amiga Inc. need to think seriously about their market intelligence, because the WOA presentation made them look unprofessional and ill-informed. It is a shame, because given what they actually announced, it should have made everyone very happy with them instead. ■

Andrew Korn, Deputy Editor of CU Amiga Magazine

The Impending Schism

It's a cliche so tired it can barely make it out of bed, but it continues to this day to be perhaps the best summary anyone could hope to make of the Amiga market since 1994: the curse of "may you live in interesting times." Who could be bored with all that bankruptcy intrigue going on?

But just because ownership gets settled doesn't mean life returns to normal. No, because we're on a collision course with a wedge that will be hammered straight into the Amiga market. The burning question is – will there be a clean break, or just a splintering into countless little tiny shards?

"The burning question is – will there be a clean break, or just a splintering into countless little tiny shards?"

The message Amiga Inc delivered in May – the part they said out loud – was that on or about late 1999, new computers labeled "Amiga" which will bear presumably at least some resemblance in function if not in form to the machines we currently call "Amigas" will be available for purchase by people like you and me, not to mention all of the other wonderful people who will no doubt be attracted to its features.

What they didn't point out – but are certainly very aware of – is that not every single current Amiga user will set aside their humble machines or their hopped-up system, their towered A1200 with the PPC card inside, their video workstations in order to buy their new wonder computer. And since the degree and effectiveness of emulation on the new AmigaOS 5.0 machines is still very nebulous (since neither actually exist), these markets will for most purposes be distinct, separate entities.

That means that Amiga developers will be faced with an unenviable task: they will have to choose. Obviously, the decision will be different for each person, and will rely not only on how many but what sort of user stays with the current course of Amiga technology and which take a flyer on the 5.0 machines, and on what their competitors choose to do. After all, it can suddenly become very profitable to be in a market where three of your competitors disappear, even if your potential market has been cut in half.

The same logic applies the other way – if you can be the first to make it into a new market, fledgeling though it may be, you will be the only game in town and can reap the rewards.

Amiga Inc isn't exactly to "blame" – a split was coming in this market regardless of their actions. Some developers had decided to follow the route being defined by phase5 in the absence of AI guidance – and now that they have established their roadmap, there are still some developers who have committed themselves to the existing Amiga market for the long haul. Of course, others have quite vocally backed Amiga Inc's plans.

What will happen when the split comes? How will you handle it? How will we at CU handle it? Only time will tell, but alas, they will certainly make for interesting times. ■

Jason Compton, US Correspondent for CU Amiga Magazine

It's not over yet



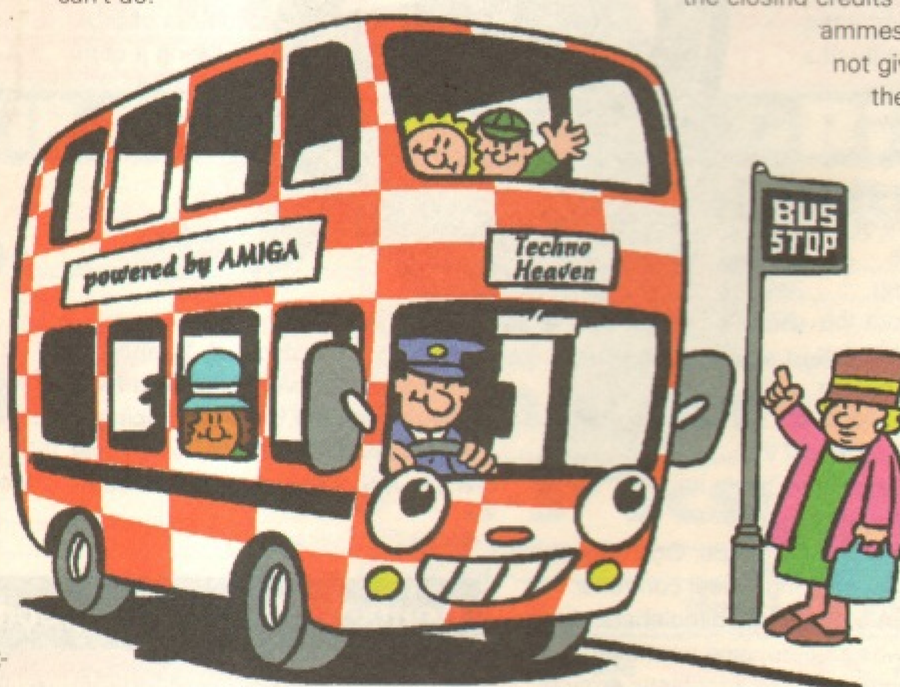
I've had enough of people going on as if Bill Gates is some kind of comic book style immortal anti-hero, destined to control every aspect of the post millennial universe for all eternity. Well he's not. So he might be the richest man in the world or thereabouts. He might be the most successful businessman ever. He might be the personification of "the nerd who turned". He might have brainwashed the computer-using world into believing that there is no choice of computer platform and there never will be. He might have as much charisma as a blank CD.

Now I'm not saying we shou' ' all lay off him and let him tramp the world underfoot like some kind of 21st century techno-dictator; quite the opposite in fact. What I am saying is yes, he has done well for himself and won't spend the winters of his latter years worrying about whether he can afford another bar on the electric fire, but that doesn't make him or his products untouchable, let alone immortal. To quote a popular phrase: "the only constant in life is change".

The common argument goes along the lines of "how can you expect any new computer system to take over when everyone uses Windows on Intel-based hardware?". Quite simple really: offer them something better and cheaper. Do you have a PC? It's OK, you don't have to answer out loud. Maybe another member of the household uses one, or maybe you use one at work. Now I bet you this PC isn't the same one you (or your invisible friend) used five years ago. Why? Because it was upgraded to take advantage of the latest developments. At one stage or another you probably found it easier to ditch the old machine and get a whole new one, maybe transplanting a few of the older bits into the new machine. To summarise, the old computer was thrown out and a new one bought and put in its place. See, it happens!

Alternatives

So that's proof that people do change the physical lump of steel and plastic on their desks, even if they usually swap it for something else in the same product line. Next comes the problem of shifting them to a different product line. That one is a bit trickier to illustrate since there has been virtually no opportunity for people to do that for quite some time. However, people do want an alternative. Of course we are probably the most passionate group of computer users when it comes to this subject, but even people who have never used anything else but a PC would be interested in something that does the job better, not to mention something that does jobs their current PC can't do.



Everyone wants better tools and labour-saving appliances.

I suppose you think I'm forgetting the matter of software compatibility. Surely I'm not suggesting people will dump the likes of Microsoft Office? Well, yes. Why not? No-one on this earth was born with the ability to use Windows or a Windows application. That was a skill that was learnt over time, and let's be frank, not much time really. Once you've used a modern mouse-driven computer desktop, learning the ropes of a new variant is comparable to falling off a log.

But what about cash? Microsoft aren't short of a few quid, which does give them a bit of an advantage over any potential rivals when it comes to marketing and advertising. Even so, Amiga Inc's parent company Gateway are doing pretty well too. With very careful, considered and even cunning marketing and advertising strategies it would be possible for them to build up the Amiga brand once more. Perhaps the trick is not to go straight for the man in the street with the hard sell via TV ads.

"With very careful, considered and even cunning marketing and advertising strategies it would be possible for them to build up the Amiga brand once more."

There's more than one way to skin a cat as they say. How about, for example, donating a few systems to major TV production units in exchange for a mention in the closina credits of ammes? not give them a titling system which has Powered By Amiga permanantly etched into the corner of every screen? Work out a two or three year sponsorship deal with a Premiership football team that you think will make it into the European competitions in the following season (my tip is Middlesborough for good sponsorship value and a chance of doing well in the cup and hence a place in Europe and all the international TV coverage that goes with it – either that or they'll go back down to the First Division). Devise some Amiga-based bank cash point systems that make the current machines look like LCD calculators, and don't forget to include the Powered By Amiga logo on every screen. In flight entertainment systems! Give airlines an edge on the competition by offering them interactive DVD movie players that give each passenger a choice of a range of films or TV programmes to watch, plus a variety of games including arcade, strategy and classic board games to please different people, not forgetting the golden rule: "Powered by Amiga" stamped on every screen.

Amiga needs you

I'm sure we could all come up with a lot more ideas along these lines if we put our heads together. You never know, Amiga Inc might even come up with a couple of their own. Here's an idea: how about you all think up some other marketing/advertising/branding schemes and send them to us. We can then pass them on to Amiga Inc and they can choose to use any that they feel would be appropriate.

Yes, that's decided. You write your crackpot marketing ideas down and we'll make sure they get to the right people. Don't go on about what you think the new hardware should be, or what you think Commodore did wrong in the past or any of that. Keep it short and sweet, because let's face it, if Amiga Inc are going to bring out a super computer within 18 months they're going to be pretty busy anyway.

Get that grey matter ticking over and send your ideas to: Crackpot Ideas, CU Amiga, 37-39 Millharbour, Isle of Dogs, London E14 9TZ. Alternatively email your schemes to crackpot@cu-amiga.co.uk ■

Tony Horgan, Editor of CU Amiga

TECHNO TRAGEDIES The Konix Multisystem

Did you know that Britain almost had its own killer games console? It's true – one of the biggest techno tragedies of the past decade is that one of the most original console designs ever didn't make it to market.

Back in the late 1980's, a company called Konix were happily churning out joysticks. They were best known for their Speedking joystick, an innovative handheld design and still my favourite control after all these years. Building joysticks for a living



▲ It's an aeroplane!

▼ ... No, it's a car...



must have seemed a pretty tedious way of doing business, and so Konix were tempted to try designing something else: a brand new games console.

The original design for the console came from a company called Flare Technology, who had designed a computer system imaginatively called the Flare One. Remember, this was the 1980s, and names like "Flare", "Duran Duran" and "Elan" were considered cool.

The heart of the Konix console was a single ASIC (Application Specific Integrated Circuit) which contained the video generator, colour palette, disk controller, Blitter, ROM, fast RAM, 12 MIP Arithmetic and Logic Unit, RISC Digital Signal Processor, and A/D ports. In fact, the ASIC alone was as complicated as the 68000 processor used by the Amiga.

The CPU driving the system was a 16bits 8086 device, offering a palette of 4096 colours and resolutions of 256 by 200 or 512 by 200. These was a multi-channel stereo sound system, and most interesting of all, a floppy disk drive as well as a cartridge port. The floppy drive was able to be read constantly, piping data to the processor even in the middle of a game. However, the most innovative thing about the Konix was its design. It was called the "multisystem" because it could transform it's shape. One minute it had a steering wheel controller, then a motorbike handlebars, then it was an aeroplane controller. There was also a fantastic array of promised goodies, including a light-gun and some kind of chair which you could sit in for total immerse gameplay.



Konix also had the not inconsiderably talents of Jeff Minter on their side. Mr Minter is a gaming legend, with titles such as "Attack of the Mutant Camels" under his belt. Well, under his Afghan more like.

Sadly the Konix never made it. Developers were unhappy at the amount of RAM on board, only 128K, which meant animation and other effects were difficult. The floppy disk just couldn't provide the data needed to make animation effects work, and there was nothing for it but to increase the amount of on-board memory.

Unfortunately all this was going on when the price of memory was extremely high, and the cost of doubling it to a more reasonable 256K had to be met from the profit margin. Konix were set on bringing in the console price under £199.

The inevitable delays of producing a complicated system, and a lack of any finished third-party software finally did for it, and despite the UK press hoping and praying, the Multisystem never made it to a proper launch. Mutant Camels was one of the only games finished, and awesome as it was, it wasn't going to be enough to launch an entire console.

Interestingly, Flare created a new system which went on to have slightly more success. Bet you can't guess its name: Jaguar ■

John Kennedy



▲ Hang on it's a motorbike!

▼ ... And it's got pedals too.



Konix Multisystem specifications

- On-board memory: 256K (in later versions upgraded to 512K)
- Processor: 16-bit 8086 chip plus a custom 12 MHz ASIC chip (includes video generator, colour palette, disk controller, Blitter, ROM, fast RAM, 12 MIP Arithmetic and Logic Unit, RISC Digital Signal Processor, stereo compact disk DACs and digital and analogue ports
- Graphics: maximum resolution of 512x200 pixels and 16 colours
- Colour palette: 4,096 colours
- Sound: 25 (?) channel stereo CD quality sound
- Display output: Standard TV or RGB composite video
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- Software format: Customised 880K 3.5" disks and expansion cartridge

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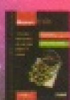
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